OCCUPATIONAL MOBILITY AMONG BLACKS IN SOUTH AFRICA

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Thesis submitted in fulfilment of the requirements
for the Degree of Master of Arts

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1982

E R R A T A

1. Page 34, Paragraph 3:

   "In 1970, approximately 95,5 per cent of black pupils were enrolled in primary school".

2. Page 77, Paragraph 2:

   "Downward mobility was therefore limited by the already low base at which the largest proportion of the sample were employed".

3. Page 91, Figure 3:

   The correlation coefficients should be preceded by a comma not a point or full-stop.

4. Page 92:

   The second footnote at the base of the page should be footnote (2).

5. Page 100, Paragraph 2:

   There should be a + sign between all of the λ values in the model.

6. Page 115, Paragraph 2:

   "The interaction declines in the 20 - 24 year age group, becomes negative in the 25 - 34 year age group and increasingly so in the 35 - 44 and 45 - 64 year age group. The interaction again becomes positive for respondents over the age of 65.

7. After page 137 the pagination becomes confused for a few pages. Page 138 is repeated and the second page 138 should be 139, page 139 should become 140 and page 140 should become page 141.

8. Page 139:

   There should be no asterisks in the body of the table itself.

9. Page 140, final paragraph:

   "It is apparent from Table 50....."

10. Page 159, Paragraph 1:

    "It is clear that the H.O.H. generation is far more poorly educated..."

11. Page 164, Figure 7:

    The dotted line from legal status (D2) to School Education should run from legal status (D3)

12. The Title Page for Chapter 6 should immediately precede page 186.

ABSTRACT

This study seeks to examine the extent, pattern, implications and determinants of occupational mobility among Blacks in South Africa and the economic context in response to which such mobility is occurring. Analysis is concentrated on the period 1960 to 1981 with particular emphasis on the 1970's.

It is indicated that during this period notable changes occurred in the division of labour which was characterised by the rapid entry of blacks into 'petty bourgeois' and skilled manual occupations. This process took place in the context of rapid economic growth and particularly of rapid industrialisation.

Emphasis is placed on an analysis of the determinants of occupational mobility among blacks in two cities in South Africa. The influence of socio-economic background and education are identified as being of primary importance as determinants of mobility.

Particular attention is paid to an investigation of the effects that the legal status of black workers in urban areas has on the variables identified as notable determinants of occupational mobility, and directly on mobility itself.

The emergent pattern of mobility and the determinants thereof are compared to the findings of studies in several other countries which provide the yardstick against which the domestic results can be measured.

Finally, projections are made of the demand for and supply of labour till 1990. The implications of these projections, particularly for the educational system and skilled labour shortages are analysed.

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INTRODUCTION

This thesis seeks to investigate occupational mobility among blacks in South Africa. Although the investigation is primarily empirical, its theoretical setting is outlined and the theoretical implications analysed. The theoretical setting arises in part from the wide-ranging debate over the socio-economic effects of economic growth on South African society. One aspect of this debate hinges around the question of whether there has been significant black mobility into occupations traditionally reserved for whites and if so what are the implications of this mobility. The empirical results of this investigation should clarify this aspect of the debate. The theoretical setting is also based on studies conducted overseas in the field of occupational mobility. This is the first time that the framework established in these studies has been applied in the South African context. Furthermore, this project endeavours to provide a rigorous analysis of the determinants of mobility and to explain the manner in which they operate.

The empirical investigation is unique. Although a cursory literature exists on the changing occupational structure in South Africa, it will be seen that it is almost without exception neither systematic nor comprehensive. The method followed in this project is based on that established in major studies into occupational mobility, primarily in the United States and Britain.

The results provide information of importance in analysing the 'manpower' situation in South Africa and in developing a view on how this situation will change in the foreseeable future. A particularly important aspect is the implication of the observed mobility on the much debated skilled labour shortage.

The paper is divided into six chapters which may be summarised as follows:

CHAPTER 1

In this chapter, those aspects of the debate over the effects of economic growth on the wider socio-economic structure of South African society which are pertinent to this paper are discussed and critically evaluated. Several questions of relevance in a study of occupational mobility are raised by this debate.

A few of the pioneering empirical works on occupational mobility are then reviewed. Several of the techniques established in these studies are employed as the basic instruments for the empirical investigation in this paper. One of the theoretical problems raised by these pioneering studies is the relationship between occupational mobility and class structure. This issue is covered in the concluding section of this chapter.

CHAPTER 2

Here, broad changes in the division of labour between 1969 and 1979 are traced and analysed. The economic context in which these changes occurred is briefly examined. The repercussions of economic growth and the changing pattern of demand for labour on black education is outlined.

CHAPTER 3

In this chapter an analysis of the rate, pattern and determinants of occupational mobility among blacks living in Soweto, Nyanga, Langa and Guguletu is undertaken. In the first section the sampling method, survey procedure and questionnaire are described.

The chapter unfolds with a description of the profile of the Soweto sample and a detailed account of inter-generational and intra-generational mobility of respondents living in the region. This is followed by an analysis of the factors identified as influencing the observed mobility patterns (i.e. the determinants of mobility). Unemployment in Soweto, and its determinants are also examined. A similar process is then undertaken for Nyanga, Langa and Guguletu.

CHAPTER 4

The surveys described in Chapter III excluded hostel dwellers. As a result the number of contract workers was too small to enable an analysis of the influence of urban residence rights on occupational mobility and associated variables.

Here, a separate but similar study conducted among hostel dwellers in Nyanga, Langa and Guguletu is outlined and the results analysed. From these results, in combination with those from the household surveys, information is acquired which enables an evaluation of the effects of legal status on occupations, on occupational mobility, and on the variables identified as determinants of mobility. The socio-economic implications of these results are discussed.

CHAPTER 5

In the first section of this chapter the domestic surveys are compared. Problems arise in interpreting the observed measures of mobility in a particular society. These problems can be largely circumvented where a relative measure can be obtained against which the observed measure can be evaluated.

International comparisons thus offer one of the ways in which mobility rates can be made intelligible. Such comparisons are undertaken in this chapter, and the differences and similarities are analysed.

CHAPTER 6

Finally, the demand for and supply of urban black labour by educational level are projected for the period 1980-1990. These projections facilitate some analysis of the macro-manpower situation in the foreseeable future. Of particular importance here, is the contribution these projections make to an understanding of the skilled labour problem.

The chapter closes with brief concluding remarks.

CHAPTER I

INTRODUCTORY AND THEORETICAL

1. The well-documented debate over the effects of economic growth on the wider socio-economic structure of South African society has raised several issues relating to the occupational mobility of Blacks.[1] One of the primary points of contention has been whether rapid economic growth has necessitated changes in employment practices based on racial criteria and if so, on the significance of such changes. The debate is theoretical in orientation and the protagonists' assertions are by and large poorly grounded empirically. This study should succeed in clarifying this area of the debate by examining closely the concepts in use and by collecting and analysing new information.

1.1 The Debate

1.1.1 The Conventionalists

The conventionalists argue that a contradiction exists between an irrational racial policy and the demands of a rationally organized, expanding industrial society[2]. Employers act as profit maximizers and will seek to reduce costs where possible. They will therefore normally wish to employ workers who they can pay the least in any

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(1) See a) O'Dowd, M., "South Africa in the Light of the Stages of Economic Growth" in Leftwich, A., South Africa: Economic Growth and Political Change. Allison and Busby, 1974.

b) Bromberger, N., "Economic Growth and Political Change in South Africa". ibid.

c) Fisher, F., Schlemmer, L., Webster, E., "Economic Growth and its Relationship to Social and Political Change" in Schlemmer, L., and Webster, E., (eds) Change, reform and economic growth in South Africa. Ravan Press, 1975.

d) Davies, R., "Capital Restructuring and the Modification of the Racial Division of Labour in South Africa" in Journal of South African Studies, Vol.5, No.2, 1979.

e) Johnstone, F.A., "White Prosperity and White Supremacy in S.A. Today" in African Affairs 69, April 1970.

f) Greenberg, S., Race and State in Capitalist Development. Ravan Press, 1980

(2) See O'Dowd, M., and Bromberger, N., ibid.

occupational category provided this does not hamper productivity. This, the 'conventionalists' argue, is a primary reason for the breakdown of the colour bar and the advancement of blacks into more skilled occupations traditionally reserved for whites.

They go on to argue that industrialisation involves a change division of labour which is associated with technological advance.[1] This, they propose, increases the imperatives to select manpower in terms of qualifications and the necessary skills to perform the job and not in terms of ascribed criteria. (This shift in the criteria for selecting employees and it's implications for mobility is discussed in detail later.) It also increases the need for geographic labour mobility enabling employees to move to the areas where their particular skills are required. It necessitates an increase in the supply of trained labour which involves making education and training available to all those with the requisite ability. (This is evaluated in Chapter 2 and Chapter 6). Racial discrimination according to the conventional school is incompatible with the attainment of these needs and thus will be eroded. One of the consequences would be greater occupational mobility among blacks, greater geographic mobility, and improvements in education over time.

1.1.2 The Revisionists

Conversely, the 'revisionists' argue that although racialism may be irrational per se, it is rational in South Africa in so far as it legitimises the economic exploitation of blacks.[2] It is also rational under certain circumstances for employers to observe restrictions rather than risk a confrontation with organised white labour. They argue that the South African economy is not a pure

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(1) Ibid.

(2) See Davies, R., op cit
Johnstone, F.A., op cit. Greenberg, S., op cit.
Wolpe, H. "Industrialism and Race in South Africa" in Zubaida, S., Race and Racialism. Tavistock, 1970.

market economy but is a 'labour repressive' economy in which the rapid accumulation of capital and the high standard of living of the white working class is made possible by the subservient position of black workers. Although this position suggests that black upward mobility would not necessarily be in the interests of accumulation, Johnstone and Davies do accept that there has been some flexibility in the job colour bar to facilitate economic expansion.[1]

They do not generally accept that this results in upward mobility amongst blacks in any real sense as they maintain that the jobs into which they move are generally fragmented parts of previously skilled occupations which only require semi-skilled training at best.[2] It will become apparent that although this process of fragmentation may indeed be occurring, the preoccupation with skilled manual jobs is limiting and it is inaccurate to make conclusions about general trends in the economy from an analysis restricted to this category.

Wolpe's position is more intransigent. He argues that if one accepts that the economic system is irrational in so far as it is based on racial criteria, a necessary concomitant is that to the degree that racial discrimination persists in the economic structure, it must have been imposed by exogenous (i.e. extra-economic) pressures.[3] He denies this possibility.

Wolpe's argument seems to ignore the possibility that while certain racial practices may enhance economic growth and be functional to the interests of the White population group (or fractions thereof) i.e. 'rational', at a particular point in time, they may become outmoded and dysfunctional to the interests of those whom they were designed to serve (and so irrational) as the structure of the economy changes over time.

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(1) Davies, R., op cit.
Johnstone, F.A., op cit.

(2) Johnstone, F.A. op cit., p. 129.

(3) Wolpe, H., op cit., p. 155.

There are therefore two almost diametrically opposed viewpoints. The one proposing that the present racial dispensation retards economic growth and will therefore be adjusted or eroded, while the other proposes that economic growth is dependent on this dispensation which will therefore continue to be enforced. In Chapters 2 and 3, occupational mobility among blacks in South Africa (particularly in two main cities)will be extensively investigated and analysed, shedding new light on this aspect of the debate. The determinants of mobility will also be investigated and the implications examined of an increased demand for more skilled labour for these variables. This again will give some evidence on the broader implications of economic growth.

1.1.3 An Alternative View

Neither the arguments of the conventionalists nor those of the revisionists discussed,took sufficient consideration of the way in which the contradictory demands identified could be met so that the economy could continue to grow while the essence of apartheid remained intact,(i.e. racial separation characterised by the migrant labour system.) The way in which the government hopes to achieve these ends is embodied in the Riekert Commission Report which clearly recognised the need for a more skilled and residentially stable labour force in certain sectors of the economy. The Commission's recommendations were aimed at relaxing the legal restrictions on blacks with Section 10(1)a, b and c rights to a particular prescribed area. Considerable emphasis was placed on the training and education of this group of urban insiders. The seemingly contradictory requirements for more skilled black labour on one hand and a supply of exploitable cheap black labour on the other can thus be achieved. The former are recruited increasingly from the ranks of the 'urban insiders' and the latter from the 'rural outsiders'.[1] The proposals thus seem to foster the growth

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(1) Wilson, F., "The Political Implications for Blacks of Economic Changes Now Taking Place in South Africa", in Thompson, L., and Butler, J. (eds), Change in Contemporary South Africa, University of California Press, 1975, p. 183.

of a privileged 'labour aristocracy' and 'black middle class'.[1] However, they may well also have the effect of deepening the division of interests "between those who have rights of access to the accumulated wealth of the economy in the core region, and those who must wait unemployed and hungry on the periphery, waiting to be called if they should ever be needed.[2]

The effect of legal status on education, occupations, and occupational mobility will be investigated in Chapter 4. From the results it should be possible to test the theoretical expectations enunciated in the above paragraph and to determine empirically exactly how legal status affects black workers in an economic sense.

1.2 Review of Selected Pioneering Studies

In a demographically oriented study of mobility based on a representative sample of the population under investigation, the problem of occupational mobility initially presents itself as one of description and estimation. Once the rates and patterns of mobility are determined the correlates of high and low mobility must be found in order to discover and analyse the causes and consequences of occupational mobility. Before proceeding to these tasks a few of the pioneering studies in mobility research in other countries will be briefly presented. These studies also provide an introduction to the conceptual and statistical techniques of this project. It will become apparent to the reader that the analytic procedures described in these studies are used to a greater or lesser extent in this paper. Where possible, comparisons will be made with these studies in order to provide an independent measure against which the results of this project can be gauged.

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(1) The recommendations of the Riekert Commission have not been implemented in full. One cannot be certain that they ever will be and thus it is difficult to test how they are working or will work in future

(2) Wilson, F., "Suggested Directions for the Future". in Towards Economic and Political Justice in South Africa. S.A.I.R.R. 1980, p. 29.

1.2.1 Great Britain

The primary objectives of Glass'[1] study in Great Britain, were to formulate a prestige grouping of occupations and to investigate the extent and direction of social mobility in the community as a whole. A sample investigation using interviews was chosen as the best method of obtaining the information required. The questionnaire was directed at persons aged 18 or over, and they were asked to give certain information concerning themselves and their parents.[2]

The sample constructed was one of 10 000 adult civilians aged 18 and over, living in England, Wales and Scotland. Those to be interviewed were selected from the files of the National Register.[3] Respondents were divided into seven occupational status categories.[4]

1. Professional and high administrative,
2. Managerial and executive.
3. Inspectional, supervisory and other non-manual (higher grade).
4. Inspectional, supervisory and other non-manual (lower grade).
5. Skilled manual and routine grades of non-manual.
6. Semi-skilled manual.
7. Unskilled manual.

The first investigation of interest in this study was conducted by Floud into the relationship between the educational attainment of the child and the occupational status of the father.[5] She found a strikingly significant correlation between these two variables. A child's chances of getting into a secondary school varied according to his or her place in the social hierarchy - children coming from categories 1-3 having six times as great a chance than that of

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(1) Glass, D.V., (ed) Social Mobility in Britain. Routledge and Kegan Paul Ltd., London. 1954.

(2) Ibid., pp. 93-97.

(3) For details of the random sample design see Glass, D.V., ibid., pp. 86-87.

(4) These were the original categories from which those used in this study were adopted.

(5) Floud, J., "The Educational Experience of the Adult Population of England and Wales as at July 1949" in Glass, D.V. (ed) ibid., pp. 98-140.

children from categories 6-7.[1]

Social origins and education tended to reinforce one another, and thus acted cumulatively to produce a close association between the occupational status of father and son. This was most notable at higher levels of social status - for the occupations for which university education was important.[2]

In addition, Floud found that men with high levels of education and relatively high social origins were more likely to be employed in higher occupational categories than were men with a comparable education but lower social origins.[3]

Himmelweit indicates that the respondents in Floud's study were virtually all educated prior to the passing of the 1944 Education Act. It is possible that this Act in concert with other factors altered the class composition of the grammar schools and it was thus education of the grammar school type which provided the main avenue for upward mobility for the children of the 'working class'.[4] However, although the main economic barriers may have been removed, there arose other, less tangible barriers which limited the chances of people with a 'deprived' socio-economic background of being accepted in grammar schools.[5]

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(1) Ibid., pp. 107, 129, 130.

(2) Ibid., p. 114.

(3) Ibid., p. 17.

(4) Himmelweit, H.T.: "Social Status and Secondary Education since the 1944 Act: Some Data for London" in Glass, D.V. (ed). Ibid., pp. 141-159.

(5) Himmelweit argues that a child is likely to do better at school the more encouragement he or she gets from home. He goes on to argue that children from middle-class homes generally receive more encouragement. Furthermore, middle-class homes provide greater opportunities for extra-curricular learning. These factors contribute to the differential performance of children from the various social classes and hence affect their chances of being accepted in grammar schools. Ibid., pp. 145-146.

With regard to inter-generational changes in occupational status, Glass and Hall found a positive correlation between the occupational status of fathers and sons.[1] This was most notable where the fathers were skilled manual workers or were in the professional or administrative category.[2] The degree of association was found to differ significantly as between the various categories; and where men had a different status from that of their fathers, they still tended to cluster around the parental category.[3]

To ascertain whether the association between parental and filial status had changed over time, the statistics derived from the sample inquiry were grouped by decade of birth of the subjects interviewed. The results did not show any important change over time.

The above analysis is broad and imprecise but succeeds in outlining certain broad trends within which more rigorous investigation can be undertaken. In order to measure the degree of association between the social status of fathers and sons, Glass and Hall started by postulating that the association was random. Thus irrespective of social origin each son would have the same chance as any other of entering any of the various levels of social prestige. Based on this assumption the expected number of sons who will themselves be in the same category as their fathers can be calculated for any given occupational category.[4] By dividing this expected frequency into the actual or observed number of sons in the same occupational category as their fathers for any given occupational category, the 'index of association' can be calculated. If the parental-filial association were random, the indices in all cases would be 1,0. The higher the degree of maintenance of parental status, the higher will be the index of association.

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(1) Glass, D.V., and Hall, J.R.: "Social Mobility in Great Britain: A Study of Inter-generation Changes in Status", in Glass, D.V.(ed) ibid., pp. 177-217.

(2) Ibid., p. 184.

(3) Ibid., p. 185.

(4) See Glass et al., ibid., p. 195.

Differences between indices of association or dissociation[1] are not self-explanatory. They do not explain why a differential exists and this has to be investigated in a different way. Thus all the index of association shows (when it differs significantly from 1,0), is that the difference between actual and expected frequencies is greater than can be accounted for by sampling fluctuations.

Taking the whole group of males covered by the sample inquiry, the highest intensity of association between parental and filial status is found amongst subjects in categories 1 and 2, and the lowest among subjects in category 5.[2] The indices of dissociation show that subjects with a higher status background are more likely to achieve a higher status than that of their fathers, with the converse applying to subjects of lower status background.[3]

Variations in the degree of self-recruitment between different age cohorts was again examined and again a fairly high and consistent degree of self-recruitment was found and the absence of trend inferred earlier was thus confirmed.

The effect of age in the relation between parental and filial status was then tested. The results show a decreasing trend in the index of association as age increases for categories 1, 2 and 3 on the one hand, and a rising trend for the lower categories on the other.[4] It appears that categories 6 and 7 act as residuals, as after an initial rise from that category some sons appear to fall back again. The declining trend in the higher categories is a result of the entry of men who rise from lower status backgrounds, and whose ultimate higher status is achieved at a greater cost in time.

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(1) The Index of Dissociation is the ratio of the actual to expected number of sons who are employed in different occupational categories to their fathers.

(2) Ibid., p. 199.

(3) Ibid., p. 199.

(4) Ibid., p. 205.

The preceding analysis is primarily concerned with associations rather than the dynamic aspect of mobility. In order to investigate this aspect the achieved occupational status of subjects was compared at different points in time (20, 30, and 40 years of age). The index of inertia (which is the same as the index of association), measures the degree to which intra-generational status is maintained. The results show a high degree of inertia for categories 1, 2, and 3, and a lower degree for categories 5, 6, and 7. It is lowest in category 5.[1] When the indices of inertia are classified according to the subject's date of birth the earlier result that men with high status backgrounds tend to achieve high status themselves and at an earlier age, is confirmed. Similarly it is found that as men with lower status backgrounds grow older, so some begin to reach the upper categories and to diminish the degree of inertia in those categories.[2]

The analysis hitherto led to two broad conclusions. Firstly, the type and level of education attained by the subjects depended very heavily upon the occupational status of the subjects' fathers. Secondly, the relation between parental and filial status was positive and significant at all levels of the status hierarchy, and especially so at the upper levels. Hall and Glass then turned their attention to the way in which education mediates the relation between parental and filial status.

They found that education influences the relation between parental and filial status in two ways. Firstly, the type of secondary schooling affects the degree of association between parental and filial status. Given a grammar school background, there is a high parental-filial association for subjects whose fathers were in the upper status categories, and a low association for subjects whose fathers were in the lower status categories.[3] For the latter

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(1) Ibid., pp. 208-209.

(2) Ibid., pp. 209-212.

(3) Ibid., pp. 298-300.

group of subjects, a grammar school education increases the distance ascended on the status scale; for the former group it reduces the distance descended[1]. In so far as there is generally a regression towards the mean, i.e. children from lower socio-economic backgrounds tend to ascend in socio-economic status while those from high socio-economic backgrounds tend to descend, a grammar school education served to modify this regression. Secondly, further education generally reinforces, rather than determines a particular relationship. Grammar school or its equivalent appears to have the most decisive influence on this relationship, and further education merely intensifies this influence.

However, as shown earlier the type of education attained by the subjects is itself heavily dependent upon the occupational status of their fathers, and hence parental occupational status and child's education tend to reinforce each other in determining filial status. They therefore conclude that education appears to modify, but not to destroy, the association between the social status of the fathers and sons, it is a "reinforcing rather than a critical agent".[2]

1.2.2 Subsequent studies in Britain

Westergaard[3] argues that the surveys in Britain around 1950, 1960, and 1970 do not confirm the oft held belief that the rate of occupational mobility would accelerate over time especially as a result of the 1944 Education Act.[4] Comparisons of the 1959 survey results with those for 1949 for all men included in each survey irrespective of age, suggests some narrowing over those ten years in class disparities of individual opportunity, but no change significant enough to negate the link between fathers' position and sons' destination in the occupational hierarchy to any notable

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(1) Ibid.

(2) Ibid., p. 307.

(3) Westergaard, J. & Resler, H., Class in a Capitalist Society: A Study of Contemporary Britain. London: Penguin, 1976, p.314.

(4) Ibid., p. 316

extent.[1]

The indices of association gave almost identical values in both years. There was only one modification of this pattern: men from unskilled and semi-skilled manual homes were less likely in 1959 to have gone into jobs of that level themselves than their predecessors of 1949.[2] Similarly, the belief that economic 'modernisation', educational policy and managerial practice would result in greater occupational mobility was not confirmed by the trends between 1960 and 1970[3].

The main inhibiting factor according to Westergaard, was that the expansion of educational provision did not involve a major re-distribution of opportunities between children of different classes. The average rose steadily but the disparities between the classes remained. The range of inequality of educational opportunity did however become less extreme.

1.2.3 Sweden

Another well-known study into occupational mobility is that of Gosta Carlsson which was conducted in Sweden.[4] The sample for Carlsson's study was drawn from the central population register (CPR) which forms a 3,3 per cent probability sample of the entire Swedish population.

Information about the subject's occupation was taken from the CPR. Parental occupation was obtained from parish birth registers on which the father's occupation is stated. The people included in the study were born between 1899 and 1923, and it should be remembered that Sweden was far more rural then than it is now.

Carlsson found that the data for Sweden could indicate neither an increase nor a decrease in mobility during the period between the world wars. In attempting to make a comparison with the British

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(1) Ibid., p. 316.

(2) Ibid., p. 317

(3) Ibid., p. 319

(4) Carlsson, G.: Social Mobility and Class Structure. C.W.K. Gleerup/Lund, 1969.

results, the Swedish data were recombined to form major strata as much as possible similar to those of the British study.[1] The results showed that the general measure of immobility or index of associations was higher for the British mobility matrix than for the Swedish.[2]

In examining the relationship between education and mobility, Carlsson distinguishes between 'pre-educational' mobility, measured by the degree of correlation between parental occupational status and the educational status of the subject, and 'post-educational' mobility measured by the correlation between educational status and future occupation and the correlation between parental status and the subjects' occupation independent of the mediating effect of education. In this way, he achieved a more incisive analysis of the effect of this intervening variable than did Glass' study.

His results show that as in Glass' study, an increasing number of young people acquire some kind of secondary school education. However they show that the proportion of children from working class backgrounds gaining a senior secondary school certificate remained fairly constant between the world wars.[3] Similarly the proportion of working class sons with a school leaving certificate who attended university was significantly less than the proportion of sons whose parents had a higher occupational status who attended university.[4] There were however definite signs of a broadening of the recruitment for senior secondary education and university studies after the Second World War.

Carlsson then tested the interrelation between occupational mobility and education and found that when fathers' occupation is held constant, education exerts a significant influence on the occupational

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(1) Ibid., p. 117.
(2) Ibid., p. 118.
(3) Ibid., p. 131.
(4) Ibid., p. 131

status of the son.[1] About 66 per cent of the sons of working class fathers who had secondary and/or tertiary education were upwardly mobile compared to approximately 33 per cent amongst those with elementary education only.[2]

Delayed effects of fathers' social status on that of the son were also prevalent in that there was a correlation between parental and filial status independent of the level of education achieved, i.e. where education was held constant.[3]

Carlsson concludes that although schooling is an asset for those who have it, it is not the decisive factor in most cases where people have been upwardly mobile in Sweden. Furthermore, education does not negate the influences of parental occupational status on that of the son. In this respect it differs from the following study which ascribes the primary role as a determinant of occupations and mobility, to education.

1.2.4 United States of America

One of the most important contributions of contemporary American studies is their refinement of regression analysis as a tool in mobility research. Regression enables a more rigorous analysis of the way in which occupational achievement is affected by other variables or the simultaneous affects of whole sets of variables than is attained in the other studies quoted here. The method will be described and explained in Chapter 3.

In their study, based on a sample of 25-64-year old men living in Chicago at the time of the survey, Blau and Hodge[4] found a general trend toward upward mobility over most of the working life cycle.[5]

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(1) Ibid., p. 133.

(2) Ibid., p. 133.

(3) Ibid., pp. 133-135.

(4) For an explanation of how this is done, see Duncan, O.D., and Hodge, R.W., "Education and Occupational Mobility a Regression Analysis" in The American Journal of Sociology, Vol.68, No.6, May 1963, pp. 630-631

(5) Ibid., p. 634.

Contrary to the high index of association between parental and filial status found by Glass,[1] Duncan and Hodge found the zero-order[2] father-son correlation to be low.[3] This indicates that there is a high degree of occupational mobility in the United States; approximately one-seventh to one-tenth of the variance in socio-economic status between father and son being attributable to the influence of father's socio-economic status.[4] They also found a pronounced "regression towards the mean" which implies that sons originating at the lowest socio-economic status (SES) levels undergo appreciable upward mobility on average, while those whose fathers' occupations had high SES levels on average experience downward mobility.[5]

They then investigated the extent to which this association is mediated by educational attainment. They found that sons originating at higher SES levels have greater educational opportunity than do those with more modest origins. The father-son SES correlation thus has a direct component independent of the mediating effect of education and an indirect effect manifested via education, both of which make a substantial contribution to the gross father-son SES correlation.[6]

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(1) Glass, D.V., op. cit., p. 199.

(2) A zero-order correlation is a gross correlation between two variables. It ignores the mediating effects of other intervening variables which are subsumed into the gross association.

(3) Duncan, O.D., and Hodge, R.W., op. cit., p. 634.

(4) Research into occupational mobility is generally concerned with movement between occupations at different levels of 'socio-economic' status, i.e. vertical mobility. For an account of the construction of these SES rankings, see -

   a) Reiss, A.J. et al. Occupations and Social Status. Free Press of Glencoe, 1961, Chapters 6-8.
   b) Rossi, P.H., and Inkeles, A., "Multidimensional Ratings of Occupations" in Social Psychology Quarterly, Volume 20, Sept. 1977, pp. 234-251.

(5) Duncan, O.D., and Hodge, R.W., op. cit., p.634.

(6) Ibid., p. 635.

The association between education and the respondents' occupational status on a zero-order basis was far greater than that between sons' and fathers' occupations. However, these gross correlations reflect in part the correlation between education and father's occupation. Duncan and Hodge therefore computed the multiple-partial coefficient[1] in which the correlation is found between respondent's occupational SES and education while holding father's occupation constant. The result shows that it is significantly greater than the zero order correlation between fathers' and sons' occupational status.[2] This finding implies that the influence of father's socio-economic status on son's status is largely mediated by education in the United States.

With respect to intragenerational mobility, Duncan et al found that such mobility was more pronounced for the younger men.[3] However background factors continue to be a significant determinant of mobility over time[4], initially increasing in significance but eventually declining as they recede in time.[5]

In conclusion, it appears that in the United States an individual's chances of vertical occupational mobility depends primarily on education which, in turn, depends to a considerable degree on the socio-economic status of the father[6]. This can be restated to show that education is the major means by which fathers affect the occupational chances of their sons. However, social origins also have a definite effect on occupational mobility independent of educational qualifications.

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(1) The multiple partial coefficient is calculated by holding constant the values of all variables except those under consideration. Thus the mediating effects of intervening variables can be 'separated out' and the exact association between two of the variables in a set can be calculated. (The procedure is explained in detail in Chapter 3).

(2) Ibid., p. 635.

(3) Ibid., pp. 633, 641.

(4) Ibid., p. 641.

(5) Blau, P.M., and Duncan, O.D., op. cit., p.7.

(6) Ibid., p.7.

1.3 Occupational Mobility and Class Structure

In both the British and Swedish studies attention is paid to the concept of class. The Swedish study incorporates a lengthy theoretical discussion of class while the British are more concerned with the effect of class background on an individual's chances of upward mobility. Both of these aspects are important but it seems that in addition some discussion is required of the relationship between occupational mobility, its determinants, and class structure itself without seriously entering the debate on the definition of class or the dynamics of class formation. Thus little attention is paid to a theoretical discussion of where class boundaries should be drawn or whether classes should be defined as categories of people occupying common positions within status hierarchies[1], conflict groups determined by their position within power structures[2], groups of people with common 'life chances'[3], groups in common structural positions within the social organisation of production[4] or in terms of other criteria.[5]

A discussion of these factors requires an examination of institutional conditions in different historical periods which could then be related to consequent differences in the stratification systems. In this

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(1) Parsons, T.; Equality and inequality in modern society, or social stratification revisited. In Lauman, E.O. (ed) Social Stratification: Research and Theory for the 1970's. Indianapolis: Bobbs-Merril, 1970.

(2) Dahrendorf, R., Class and class conflict in industrial society. Stanford University Press, 1959.

(3) Parkin, F., Class inequality and political order. New York: Praeger, 1971.

(4) Bukharin, N. (1921). Historical Materialism. Ann Arbor Paperbacks, 1969.

(5) For example: Poulantzas, N., Classes in contemporary capitalism. New Left Books, 1975.

project attention is restricted to the differential conditions that affect occupational 'achievements' within one society. Inferences made with respect to class formation rest on certain paradigmatic premises and are thus not absolute and may well be subject to debate.

Most analyses of class formation have one thing in common, that is, that class boundaries are conceived of to some extent as lines of separation between certain occupational groups. The classificatory schema thus usually entails the demarcation of some units from others in the division of labour. These occupational units, or classifications provide one of the principal indices in defining the positions of agents within the 'social relations of production'. Occupational locations determine intraclass strata through two primary mechanisms.[1] Firstly, occupational positions reflect different market capacities and thus contribute to reproducing privileged segments of classes at the level of exchange relations. Secondly, occupations are central criteria of status and thus contribute to reproducing privileged segments of classes at the level of ideological relations.

In studying occupational mobility on the other hand, one is concerned with the flow of individuals from certain occupations or occupational groups into others. Movement within similar occupational categories is regarded as horizontal and is therefore not measured. How then are the concepts of class and occupational mobility related?

Under the hypothetical circumstances of perfect occupational mobility, every entrant into the labour market would have exactly the same chance of attaining employment in any given occupation regardless of social background. The son of a miner would for example have as much chance of becoming a doctor as would a doctor's son.

If one accepts the Weberian definition of class as a number of people having in common a specific causal component of their life chances,

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(1) Wright, E.O., Class Structure and Income Determination. Academic Press, 1979, p. 121.

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then under the circumstances outlined above one has a classless society. A necessary concomitant of this view is that classes are fundamentally determined at the level of the market and class struggles are primarily market struggles.[1] A number of different theoretical traditions have however argued that class analysis must be located within the sphere of production, and classes must be sought in the structure of production rather than simply in the structure of exchange.[2] Market relations are seen as important in so far as they are illustrative of how individuals are sorted into the production positions themselves. Furthermore markets are recognized as one of the arenas in which class struggle occurs. Conflict is however seen as ultimately being shaped by the structure of class relations within production.[3] In this view, perfect mobility does not mean that social classes would not exist, but that the boundaries between such classes (in so far as they were determined by occupations), would be completely permeable.

In the converse hypothetical situation, where there is zero occupational mobility, each entrant into the labour force would be employed in the same occupation or occupational category as his or her father and would maintain this occupational position throughout his or her working life. In this situation the barriers between occupations or occupational categories are entirely impermeable and by implication class boundaries (again in so far as they are determined by occupations) would similarly tend to be impermeable. This state of things is perhaps most closely approximated by the traditional caste system in India.

Clearly, the degree of mobility in particular societies varies between the two extremes. In societies in which the rate of mobility approaches perfect mobility, the reproduction of class positions may

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(1) Weber, M., Economy and Society, 1922 Ed by Gunther Roth. Bedminster Press, 1968, p. 131.

(2) Wright, E.O., op. cit., p. 10.

(3) Ibid., p. 11.

nevertheless persist although they will seldom be inherited. Conversely, where the degree of mobility in a society approximates zero mobility more closely, class positions are both reproduced and inherited. The position in any one society is also likely to vary over time. The degree of mobility in these particular societies is a reflection of the permeability of the barriers between occupational categories. It is towards an analysis of these barriers, their implications for class formation, and their nature in South Africa, that attention is now turned.

Barriers to occupational mobility usually result from an attempt by those in relatively advantaged occupational groups to maximize rewards by restricting access to resources and opportunities to a limited circle of eligibles. This entails the singling out of certain social or physical attributes as the justificatory basis for exclusion.

According to Parkin the two main exclusionary devices by which the 'bourgeoisie' in modern capitalist society constructs and maintains itself as a class are, firstly, those surrounding the institutions of property; and, secondly, academic or professional qualifications.[1] "Each represents a set of legal arrangements for restricting access to rewards and privileges: property ownership is a form of closure designed to prevent general access to the means of production and its fruits; credentialism is a form of closure designed to control and monitor entry to key positions in the division of labour."[2] The problem with this analysis is that it appears to regard barriers between particular occupational categories as being coterminous with class barriers. This does not adequately allow for the existence of intra-class occupational boundaries based on skills or qualifications. The barriers established by craft unions are a case in point.

The acquisition of formal qualifications or certificates is however,

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(1) Parkin, F., Marxism and Class Theory: a Bourgeois Critique. New York: Columbia, 1979, p. 44

(2) Ibid., pp. 47-48.

usually affected to some extent by socio-economic background. This relationship will also be analysed in detail in the forthcoming chapters, but it is important to mention it here as closure on educational grounds tends to obscure this fact. Thus the tendency to use ostensibly individualistic criteria to produce a pattern of social closure thus persists in discriminating via the collectivist criteria of class and racial membership. "If the relationship between individual capacity and performance standards is distorted by the transmission of ... cultural capital along kinship lines, then class selection by examinations and certificates results ... in de facto collectivist exclusion and class reproduction".[1]

Occupational mobility and these barriers thus essentially have an inverse relationship. The more rigid the conditions of closure and hence the more rigid the class structure, the less will be the extent of occupational mobility within that structure. This may lead to the erroneous conclusion that where rates of mobility are very high, class boundaries are negligible and the concept itself becomes redundant. This ignores the possibility that under certain circumstances the 'bourgeoisie' and 'petty bourgeoisie' may regard the continuation of an essentially capitalist system as more important than whether their lineages necessarily maintain the same economic or class position. This may happen where, for example, the capitalist system itself comes under threat because of the exclusion of a particular group or groups from economic and political power (South Africa is a case in point). Thus, in so far as closure on 'individualistic' criteria, and high rates of mobility serve to legitimate the system against attacks from its critics, so these processes may be strongly encouraged even by those in relatively advantaged positions. The conclusion that high mobility may result in the concept of class becoming redundant, seems to be premised on the conception of classes as statistical aggregations of individuals or concrete social groups defined by particular boundaries.

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(1) Parkin, F. (ed): The Social Analysis of Class Structure. Tavistock Publications, 1974.

In this view, where the boundaries are weak or permeable, the groups tend to merge and the class structure itself crumbles to some extent. A contrary view is that mobility can occur within a structure without necessarily affecting the structure itself. Poulantzas, for example, emphasized that "... the question of who occupies a given position, i.e., who is, or becomes, a bourgeois, proletarian, petty bourgeois, poor peasant, etc., and how and when he does, is subordinate to the first aspect - the reproduction of the actual positions occupied by the social classes".[1]

Although some inferences as to class differentiation amongst blacks in South Africa can be drawn in this paper from information on the occupations, education, and socio-economic background of respondents (i.e. on the basis of the Weberian notion of the causal components of life chances), a more rigorous analysis is impossible as several other factors usually regarded as essential are not investigated.[2]

At the specific level of immediate life chances this investigation provides substantial information on many of the characteristics often associated with class. However, although the economic place of 'social agents' has a principal role in determining social classes, it cannot be concluded that this economic place is sufficient to determine social classes. Political and ideological factors for example, may also have an important influence on class formation. This complicates the problem in South Africa as blacks share a common destiny in several respects - neither education nor wealth necessarily being able to emancipate them from their political subordination or their indelible racial status.[3]

The restriction of this study to blacks serves to obscure several features of class structure in South Africa. Firstly, the capitalist

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(1) Poulantzas, N., "On Social Classes". New Left Review, 78, pp. 49-50.

(2) Although these causal variables are related to class structure, it does not mean that they and the concept of class can be collapsed into a single typology.

(3) Kuper, L., An African Bourgeoisie: Race, Class and Politics in South Africa. Yale University Press, 1965.
It should be noted in this paper the terms 'blacks' and 'Africans' are used synonymously.

class is predominantly White and there is a powerful extra-economic barrier to blacks acquiring productive property in the "existing preserves of the white group".[1] The opportunity for blacks to accumulate and invest exists de jure in the African homelands which opt for independence. Their property rights therefore, are weak and the ability to build a structure of power on the basis of private property is severely restricted. Secondly, the black and white working classes stand in distinct racially defined positions "in relation to the means of production"[2]. White workers often contribute to the exploitation of black workers in so far as they perform supervisory and coercive roles. Thirdly, the black petty bourgeoisie are generally hampered by laws which favour their white counterparts. Petty bourgeois and skilled manual occupations have traditionally been restricted on the basis of race.[3] Finally, commercial agriculture is entirely controlled by whites while virtually all farm labour is black.

Due to political and economic exigencies (which will be discussed later) there has been an ostensible tendency for the conditions of closure in particular occupations to move away from collective racial exclusion to exclusion based on more 'individualistic' and achievement-based criteria.[4] Closure practices based on educational criteria (i.e. where entry into particular positions in the division of labour are based on credentials), are becoming increasingly significant. As a result the distinction between the class structure and racial structure becomes increasingly clear. These trends will be examined in Chapters 2, 3 and 6.

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(1) Wolpe, H., The changing Class Structure of S.A.: The African Petit Bourgeoisie, (Mimeo), 1977.

(2) Ibid.,

(3) See for example: Doxey, G., The Industrial Colour Bar in South Africa. O.U.P., 1961. Hobart Houghton, D., The South African Economy, O.U.P., 1964, pp. 155-158.
Wolpe, H., op cit., p.23.
Adam, H., Modernizing Racial Domination, University of California Press, 1971.

(4) The theoretical limitations of this view were noted earlier in the chapter and should be kept in mind here.

CHAPTER 2

THE DIVISION OF LABOUR, 1969-1979

2.1 Changes In The Occupational Structure 1969-1979

Economic growth in South Africa has been characterised by an increase in large-scale industrial, administrative, and financial enterprises and a concomitant expansion of all sectors of the economy. This necessitated important changes in the division of labour which will be examined in this section.

2.1.1 The Method

The method followed is based on that employed by Simkins and Hindson.[1] The data is derived from six Manpower Surveys taken in April of 1969, 1971, 1973, 1975, 1977 and 1979. The occupational structure from 1969-79 is calculated and analysed. Simkins and Hindson[2] note that the Manpower Surveys are unlikely to include the 'informal' sector, particularly unregistered or illegal activities. They also note that the coverage fluctuates from survey to survey.[3]

A list of the occupational categories follows:[4]

01 Independent and high professional
02 Executive and high administrative in large organisations
03 Professional and salaried professional
04 Lower executives and administrative in large firms, civil service and executives in medium firms
05 Semi-professional and creative
06A Owners and executives in small private firms.
06B Senior clerical and white-collar technical
07 Clerical/sales/representatives
08A Blue-collar technical
08B Supervisory and Inspectional
09 Skilled manual
10 Routine non-manual, ranks in services, street and market traders
11 Semi-skilled
12 Unskilled

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(1) Simkins, C.E.W. and Hindson, D. The Division of Labour In S.A. 1969-1977; D.S.R.G. Working Paper No. 7, 1979.

(2) Ibid.

(3) Ibid., pp. 5-7.

(4) Ibid., p.7
These categories are developed from thoseof Glass. See Chapter 1.

Simkins and Hindson aggregate these categories into three classes on the basis of the relation of the categories to the means of production.[1] The classes identified are:[2]

I. The Bourgeoisie. 02, 04, 06A

II. The Petty Bourgeoisie

a) Professional and Semi-professional: 01, 03, 05.

b) Clerical, White-collar Technical and other non-manual workers: 06B, 07, 10.

c) Supervisors: 08B

III. The Working Class

a) Skilled: 08A, 09.

b) Semi-skilled: 11

c) Unskilled: 12

Following their example certain adjustments are made to Manpower Survey Data.[3]

The Manpower Survey covers only employees. To these is added working proprietors. The most recent count of these published in S.A. Statictics, 1974, showed that these comprised 1,33% of people working in wholesale trade and 21,0% of those in retail trade.

The race-sex breakdown is taken from the 1960 Population Census. These proportions are applied to S.A. Statistics figures for employment in these subsectors in 1979 and the resulting figures added to the Manpower Survey figures for occupational category 06A.

The 1977 Manpower Survey excludes the Transkei but includes Bophuthatswana while the 1979 Manpower Survey excludes both the Transkei and Bophuthatswana.

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(1) Ibid., p.7.

(2) Ibid., p.8.

(3) Ibid., p. 10

Comparing the last employment figure for Bantu homeland authorities which included the Transkei and the first which excluded it in the Quarterly Bulletin of Statistics for June 1978, Simkins and Hindson found that a figure of 36,9% should be added to employment under this head in the 1977 Manpower Survey as an estimate of public sector employment in the Transkei.[1] To maintain consistency the same procedure should be followed for 1979.

Similarly, by comparing the last figure for Black States Authorities which included Bophuthatswana and the first that excluded it in the Quarterly Bulletin of Statistics for December 1978, we find that a figure of 18,23% should be added to employment under this head in the 1979 Manpower Survey as an estimate of public sector employment in Bophuthatswana.

2.1.2 Percentage distribution of the workforce included in the Manpower Surveys into Classes and Occupational Categories from 1969-1979

From Table 1 it can be observed that there was a steady and notable growth in the proportion of the workforce classified as belonging to the bourgeoisie. Similarly all subdivisions within the petty bourgeoisie grew over the period except for a minor decline in the professional and semi-professional category in 1977, and Clerical, White-Collar Technical and other manual workers between 1977 and 1979.

Within the working class category the proportion of skilled workers grew between 1969 and 1979 while the proportion of semi-skilled workers was erratic, but increased relatively substantially between 1977 and 1979. The proportion of unskilled workers has decreased notably and steadily over the period.

The table indicates that the largest(albeit declining) proportion of the labour force covered by the Manpower Surveys are broadly classified as working class. Simkins and Hindson[2] indicate that this figure is understated as the labour force employed in commercial agriculture is not enumerated.

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(1) Ibid., p. 10.

(2) Ibid., p. 15.

Table 1 : Percentage distribution of the workforce covered by this study into classes 1969-1979

Class	1969	1971	1973	1975	1977	1979
I	3,11	3,55	3,78	3,95	3,95	4,44
IIa	4,77	5,08	5,32	5,75	5,71	5,92
IIb	18,77	19,87	19,92	20,48	20,93	20,78
IIc	1,88	1,91	1,96	2,34	2,45	3,08
II - total	25,42	26,86	27,20	28,57	29,09	29,78
IIIa	9,80	10,53	10,45	10,83	10,98	11,26
IIIb	16,98	16,76	16,79	16,90	16,56	17,29
IIIc	44,68	42,29	41,76	39,74	39,42	37,23
III - total	71,46	69,58	69,00	67,47	66,96	65,78

Note: In Tables 1, 2, and 3 the results for the years 1969-1977 are taken from Simkins & Hindson.

Table 2: Percentage Africans

Occupational category	1969	1971	1973	1975	1977	1979
(?) 01	6,3--	18,2--	17,7--	15,8--	11,4--	5,4--
02	0,2--	0,5--	0,5--	0,7--	0,5--	1,5--
03	2,4--	1,8--	2,9--	3,4--	2,4--	2,8--
04	0,2--	0,3--	0,5--	(?) 0,2--	1,1--	2,2--
05	29,3-	29,2-	34,3-	37,8-	(?)31,5-	31,1-
06A	13,4--	12,9--	12,3--	13,5--	12,3-- (?)	6,5--
06B	2,4--	1,7--	2,9--	3,6--	2,8--	2,3--
07	7,7--	7,6--	8,6--	10,8--	14,5--	15,1--
08A	29,7-	34,0-	32,5-	31,8-	31,3-	27,8-
08B	14,1--	13,5--	12,6--	20,5--	26,3--	20,6--
09	9,3--	17,4--	16,5--	21,1--	23,2--	34,0-
10	28,6-	29,4-	31,9-	32,4-	36,4-	34,8-
11	54,7-	57,5*	58,1*	61,1*	66,7*	63,7*
12	88,8*	89,9*	90,0*	89,5*	88,4*	88,8*
TOTAL	55,6	55,1	55,6	55,4	56,2	54,9

Notes: (1) An asterisk denotes that the racial group is over-proportionally represented in the relevant occupational category. (A double asterisk denotes heavy over-representation (twice or more the proportion of the racial group in total employment.) ; A minus denotes under-representation and a double minus substantial under-representation (half or less the proportion of the racial group in total employment).

(2) Unfortunately, there are some fluctuations for which there is no apparent explanation other than unreliability of estimates. These are denoted by the entry of (?) before the figures.

An examination of Table 2 reveals that the proportion of executives in large and medium firms and administrators in large organisations and the civil service who are black, is negligible. Although the proportion of owners and executives in small private firms who are black is more significant, blacks nevertheless constitute an extremely small proportion of the bourgoisie. This is not surprising given the powerful economic and extra-economic barriers to blacks acquiring productive property outside of the 'independent' homelands.

Blacks are similarly under-represented in the petty-bourgeois occupations although they constitute a notable proportion of the semi-professional and creative category. This is accounted for by the large number of teachers in this category. Black penetration into the senior clerical and white collar technical category remains severely limited. Black advancement into the clerical, blue-collar technical, and routine non-manual categories is far more notable, the proportion of the former category constituted by blacks having more than doubled between 1969 and 1979.

The proportion of the supervisory and inspectional category who are black increased over the decade although there was initially a decline from 1969 to 1973.

Black representation in the skilled manual category increased dramatically (by over three times) during the period. This category as a whole grew fairly notably between 1969 and 1979 and the relative increase in black employment in the category is thus even more important.

Blacks become proportionally over-represented for the first time in the semi-skilled occupational category. The proportion of semi-skilled black workers has also increased over the period under consideration, although there has been a decline since 1977. The proportion of the unskilled labour force consisting of blacks has remained fairly constant over the period. Blacks constitute by far the dominant proportion of this category.

Table 3 : Allocation of Africans to each occupational class (Percentages)

Class	Year 1969	1971	1973	1975	1977	1979
I	0,39	0,43	0,43	0,51	0,46	0,32
IIa	1,89	2,09	2,59	3,10	2,53	2,57
IIb	6,29	6,85	7,49	7,98	9,17	9,09
IIc	0,48	0,47	0,56	0,87	1,15	1,61
II	8,66	9,41	10,64	11,95	12,85	12,82
IIIa	2,86	4,01	3,76	4,64	4,97	6,65
IIIb	16,73	17,47	17,54	18,66	19,67	20,05
IIIc	71,37	68,68	67,63	64,26	62,04	60,17
III	90,96	90,16	88,93	87,56	86,68	86,87

Notes(1)Totals may not add to exactly 100% because of rounding.

From Table 3 it can be observed that although the proportion of blacks employed in bourgeois occupations increased between 1969 and 1975, it has been declining since. The proportion of blacks employed in the petty bourgeois occupational class has grown steadily over the period, this growth being most rapid in the clerical and routine non-manual categories. Although the proportion of the black labour force employed in working class occupations has declined, this is due to the rapid decline in the proportion employed in unskilled occupations. The proportion employed in semi-skilled occupations grew steadily and notably, while the proportion employed in skilled manual occupations more than doubled over the period.

What this account fails to show is that blacks within the occupation categories, are nearly always economically in a weaker position than their white counterparts. Thus, for example, in the different sectors of the petty-bourgeoisie, blacks often receive lower salaries than whites, and are lower down on the hierarchy of authority. Similarly, in business, blacks operate for the most part on a small scale and are short of capital and credit.

In conclusion, it has been shown that in South Africa (as in other industrial and industrialising economies), the shape of the occupational structure has shifted fairly steadily over time. With the development of the tertiary sector non-manual jobs have increased as a proportion of total employment. By conventional criteria[1] this process represents an upward shift in the weight of the occupational structure, and that shift has then added to upward social mobility since new positions in the middle and upper ranges of the scale have had to be staffed.

Thus to sum up, it seems that certain conditions favourable to the entry of blacks into petty-bourgeois occupations emerged in South Africa. That intrusion has been limited by the predominance of whites over the 'upper levels' of these occupations, and to a large extent blacks occupy the 'low level' jobs, that is, those which tend to be devoid of managerial and co-ordinating functions. There has however emerged a small stratum of black administrators, managers and executives.

These results may be used to get a rough picture of some important mobility patterns. The question remains, if some occupational strata have expanded while others are shrinking, how are the expanding strata recruited, and what happens to those whose origin is in one of shrinking strata? This also will be dealt with in subsequent chapters.

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(1) Braverman (1974) argues that these categories and classifications distort the level of skill required and that the upgrading implied using these classifications is insignificant and falacious in view of the minimum training time required for many of these jobs. Braverman, H., Labor and Monopoly Capitalism, Monthly Review Press, 1974.

Under consideration in this section, was the transformation of the occupational structure in the course of economic growth. This transformation is accomplished by .... "a combination of elementary demographic processes, no one or combination of which is identical with the pattern, volume or rate of occupational mobility as may be observed in a conventional intergenerational occupational mobility table"[1].

Thus what we have are a number of 'still-photographs' of the occupational structure at various points in time, but not a moving picture of the actual process of change. To study the dynamics of mobility requires analysis along broader economic , social and individual levels.[2] This is undertaken in the following chapter.

2.2 Changes in the Educational Structure

The growth of the economy has had other repercussive effects. The changes in the division of labour and the trend away from relatively simple, unskilled work to more complex semi-skilled and skilled work, have set up new demands for changes in the education of the workforce.

Table 4 illustrates the educational profile of the black population as at 1970.

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(1) Duncan, O.D., "Methodological Issues in the Analysis of Social Mobility" in Coxon, A.P.M. and Jones, C.L. (eds.) Social Mobility. Penguin, 1975, p.166.

(2) Miller, S.M., "Comparative Social Mobility" in Current Sociology, Volume 9, No. 1, 1960, p.3.

Table 4

Education of the Urban Black Workforce as at 1970

Republic of South Africa

Education	Sex					
School Standard	Male	%	Female	%	Total	%
None	1 253 957	44,0	832 720	38,2	2 086 677	41,5
Sub A - Std 2	600 626	21,1	452 852	20,8	1 053 478	20,9
Std 3 - Std 5	605 691	21,2	528 444	24,2	1 134 135	22,5
Std 6 - Std 7	288 372	10,1	277 396	12,7	565 768	11,2
Std 8 - Std 9	88 719	3,1	82 979	3,8	171 698	3,4
Std 10	14 886	0,5	5 965	0,3	20 849	0,4
TOTAL	2 852 251	100,0	2 180 354	100,0	5 032 605	100,0

White Areas

	Sex					
School Standard	Male	%	Female	%	Total	%
None	1 133 453	44,3	715 458	37,9	1 848 911	41,6
Sub A - Std 2	534 382	20,9	390 950	20,7	925 332	20,8
Std 3 - Std 5	548 434	21,5	465 772	24,7	1 014 206	22,8
Std 6 - Std 7	254 440	10,0	241 018	12,8	495 458	11,1
Std 8 - Std 9	74 585	2,9	68 431	3,6	143 016	3,2
Std 10	11 646	0,5	5 012	0,3	16 658	0,4
TOTAL	2 556 940	100,0	1 886 641	100,0	4 443 581	100,0

Note: The median educational level for men and women falls in the 'Sub A - Std. 2' educational category.

Percentages may not total to 100,0 due to rounding.

Source: Population Census 6 May 1970. Report No.02 05 07 Government Printer P .375.

The conditions in Black Education have improved since 1970. Government expenditure per black pupil increased from approximately R25 in 1971/72 to R71 (R31 in real terms) in white areas in 1979.[1] Government restrictions on financial assistance from the private sector were also relaxed during the early 1970's and the rate at which schools were built increased.[2]

The number of teachers in black schools increased rapidly from 38 691 in 1970 to 66 764 in 1978 (the latter figure excluding Transkei and Bophuthatswana).[3] The proportion with matrics increased from 11,6 per cent in 1970 to 15,5 per cent in 1978.[4] The teacher: pupil ratio improved from approximately 1:60 in 1970 to 1:48 in 1980.[5] Despite all this the shortage of teachers grew by 28 per cent in primary schools and 143 per cent in secondary schools in the early 1970's.[6] This shortage is however related to conditions in the profession as black teachers are poorly paid relative to their white counterparts and relative to other occupations requiring similar qualifications.

The enrolment by standard of African pupils in the Republic of South Africa can be observed in Table 5. In 1970, approximately 95,5 per cent of black pupils were enrolled in high school. By 1978 86,2 per cent were enrolled in primary schools compared to 13,7 per cent in high schools. It should be noted however that some of the change in the percentage at primary and secondary schools was due to the change in the structure of African schooling, particularly the elimination of Std. 6 from primary schools. Total enrolment in primary and secondary schools increased by just under 50 per cent between 1970 and 1977. Enrolment in secondary schools increased by 4,5 times during this period, a remarkable increase.[7]

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(1) Survey of Race Relations in South Africa. S.A.I.R.R., 1972, 1980.

(2) Kane-Berman, John. Soweto Black Revolt, White Reaction. Ravan, 1978, p. 184.

(3) Blignaut, S., Statistics on Education In South Africa, 1968-79. S.A.I.R.R., 1981, p. 66.

(4) Ibid., p66.

(5) Ibid., p. 65.

(6) Kane-Berman, J., op. cit., p. 187.

(7) 1977 is used as after this date Transkei and Bophuthatswana are excluded from the statistics.

TABLE 5

AFRICAN PUPILS: ENROLMENT BY STANDARD

A: REPUBLIC

	1969				1970				1971				1972				1973			
	Common Area	Home-lands	Total	RSA	Common Area	Home-lands	Total	RSA	Common Area	Home-lands	Total	RSA	Common Area	Home-lands	Total	RSA	Common Area	Home-lands	Total	RSA
				%				%				%				%				%
Sub A	257503	367443	624946	24,6	263430	381855	645285	23,6	272514	403803	676317	23,2	273220	414770	687990	22,3	285739	443033	728772	22,2
Sub B	190550	269992	460542	18,1	197765	288092	485857	17,7	205379	305845	511224	17,5	216007	320811	536818	17,4	217847	333248	551095	16,8
Std 1	157189	239873	397062	15,6	169607	259943	429550	15,7	174142	277542	451684	15,5	185229	290619	475848	15,4	193736	309660	503396	15,3
Std 2	117927	181272	299 199	11,8	126 328	197880	324208	11,8	130678	211958	342636	11,7	136369	222970	359339	11,7	144910	238116	383026	11,6
Lower Primary	723169	1058580	1781749	70,1	757130	1127770	1884900	68,9	782713	1199148	1981861	67,9	810825	1249170	2059995	66,8	842232	1324057	2166289	65,9
Std 3	92340	142067	234407	9,2	100153	160955	261108	9,5	105965	177077	283042	9,7	112896	188336	301232	9,8	118044	202562	320606	9,8
Std 4	68453	99558	168011	6,6	75061	111883	186944	6,8	79738	125376	205114	7,0	86015	136898	222913	7,2	91316	151184	242500	7,4
Std 5	52632	78917	131549	5,2	58194	88375	146569	5,4	62349	97967	160316	5,5	68296	107813	176109	5,7	74201	120384	194585	5,9
Std 6	47257	72447	119704	4,7	52534	81906	135440	4,9	57745	90629	148374	5,1	63046	98426	161472	5,2	69325	112130	181455	5,5
Higher Primary	260682	392989	653671	25,7	286942	443119	730061	26,7	305797	491049	796846	27,3	330253	531473	861726	28,0	352886	586260	939146	28,6
Total Primary	983851	1451569	2435420	95,8	1044072	1570889	2614961	95,5	1088510	1690197	2778707	95,2	1141078	1780643	2921721	94,8	1195118	1910317	3105435	94,4
Form I	14784	27303	42087	1,7	17470	32034	49504	1,8	17948	35657	53605	1,8	21620	42113	63733	2,1	24058	46653	70711	2,2
Form II	12596	21996	34592	1,4	12674	24501	37175	1,4	14231	28278	42509	1,5	15039	32217	47256	1,5	18403	37695	56098	1,7
Form III	8596	14259	22855	0,9	9468	17227	26695	1,0	9668	20132	29800	1,0	10921	21153	32074	1,0	12324	24851	37175	1,1
Form IV	1580	3133	4713	0,2	2147	4030	6177	0,2	2467	5366	7833	0,3	2914	6995	9909	0,3	3185	8159	11344	0,3
Form V	937	1761	2698	0,1	1025	1913	2938	0,1	1314	2751	4065	0,1	1466	3348	4814	0,2	1663	4074	5736	0,2
Total Secondary	38493	68452	106945	4,2	42784	79705	122489	4,5	45628	92184	137812	4,7	51960	105826	157786	5,1	59633	121431	181064	5,5
Total Prim. and Sec.	1022344	1520021	2542365	99,05	1086856	1650594	2737450	99,9			2916519	99,9	1193038	1886469	3079507	99,9	1254751	2031748	3286499	99,9
Special schools			1041	0,05			1114	0,1			1532	0,1			1655	0,1			1684	0,1
Total Enrolment			2543406	100,0				100,0			2918051	100,0			3081162	100,0			3288183	100,0

1. In 1976 the structuring of the school system was changed: Std 6, the 8th primary class, was eliminated, bringing the system for Africans into line with those for other racial groups
2. Excluding Transkei and Bophuthatswana.

	1974				1975				1976[1]				1977				1978[2]			
	Common Area	Home-lands	Total	RSA	Common Area	Home-lands	Total	RSA	Common Area	Home-lands	Total	RSA	Common Area	Home-lands	Total	RSA	Common Area	Home-lands	Total	RSA
				%				%				%				%				%
b A	293636	467199	760835	21,8	305701	502550	808251	21,8	309887	550532	860419	22,1	310152	550729	860881	21,0	292150	347283	639433	19,8
b B	224792	352481	577273	16,6	229101	369234	598335	16,2	238327	379723	618050	15,8	237050	405729	642779	15,7	229243	284429	513672	15,9
d 1	196919	322628	519547	14,9	200904	339122	540026	14,6	206316	355663	561979	14,4	209666	381951	591617	14,4	203833	257573	461406	14,3
d 2	151021	253690	404711	11,6	152971	266241	419212	11,3	157221	278264	435485	11,2	156738	301817	458555	11,2	154749	214092	368841	11,4
ver imary	866368	1395998	2262366	64,9	888677	1477147	2365824	63,9	911751	1564182	2475933	63,5	913606	1640226	2553832	62,2	879975	1103377	1983352	61,4
d 3	126055	217246	343301	9,8	131386	234548	365934	9,9	135930	253793	389723	10,0	136078	267660	403738	9,8	133974	186299	320273	9,9
d 4	96584	163360	259944	7,5	103798	176636	280434	7,6	109299	193348	302647	7,8	109672	208152	317824	7,7	107153	147307	254460	7,9
d 5	78732	131972	210704	6,0	80018	141001	221019	6,0	107871	124852	232723	6,0	97092	184779	281871	6,9	94194	132662	226856	7,0
d 6	74410	126017	200427	5,7	59914	85748	145662	3,9	-	-	-	-	-	-	-	-	-	-	-	
gher imary	375781	638595	1014376	29,1	375116	637933	1013049	27,4	353100	571993	925093	23,7	342842	660591	1003433	24,4	335321	466268	801589	24,8
tal imary	242149	2034593	3276742	93,9	1263793	2115080	3378873	91,3	1264851	2136175	3401026	87,2	1256448	2300817	3557265	86,6	1215296	1569645	2784941	86,2
rm I	28596	53755	82351	2,4	47821	101430	149251	4,0	87438	170067	257505	6,6	81168	151949	233117	5,7	74178	104382	178560	5,5
rm II	21086	42356	63442	1,8	24537	66728	91265	2,5	37758	95718	133476	3,4	32050	125585	177635	4,3	44689	89614	134303	4,2
rm III	14396	28192	42588	1,2	16380	34392	50772	1,4	19986	53888	73874	1,9	26104	64483	90587	2,2	29271	68395	97666	3,0
rm IV	4005	10401	14406	0,4	5514	12757	18271	0,5	7370	14274	21644	0,6	8252	21894	30146	0,7	6416	16209	22625	0,7
rm V	2041	4691	6732	0,2	2489	6520	9009	0,2	3493	7884	11377	0,3	4093	9953	14046	0,3	2769	7462	10231	0,3
tal condary	70124	139395	209519	6,0	96741	221827	318568	8,6	156045	341831	497876	12,8	171667	373864	545531	13,3	157323	286062	443385	13,7
tal Prim. d Sec.	312273	2173988	3486261	99,9	1360534	2336907	3697441	99,9	1420896	2478006	3898902	99,9	1428115	2674681	4102796	99,9	1372619	1855707	3228326	99,9
ecial hools			1782	0,1			1825	0,1			1552	0,1			1688	0,1			1450	0,1
tal rolment			3488043	100,0			3699266	100,0			3900454	100,0			4104484	100,0			3229776	100,0

Source: Blignaut, S., Statistics on Education in South Africa, 1968-78, S.A.I.R.R., 1981.

Thus, although black education is still relatively disadvantaged as compared to white, it is evident that the gross neglect in evidence until 1970 has begun to be rectified. This increase in the priority attached to black education is a reflection of the changing needs of the economy. "Indeed, as the economy has manifested a need for more and more skilled black manpower, the government has paid more attention to secondary education and to reducing the drop-out rate. Funds have also been provided for industrial training."[1]

The relationship between education and occupations will be carefully explored in the following chapter, and the implications of the improvement in the standard of black education will be investigated.

(1) Kane-Berman, J., op. cit., p. 188.

CHAPTER 3

OCCUPATIONAL MOBILITY AND ITS DETERMINANTS

> "Within our societies vertical circulation of individuals is going on permanently. But how is it taking place? ... What are the characteristics of this process of which very little is known? Individuals have been speculating too much and studying the facts too little. It is high time to abandon speculation for the somewhat saner method of collecting the facts and studying them patiently." [1]

It has already been mentioned that information gleaned from National Statistics enables at best a comparative static analysis of occupational mobility. No information is available on individuals or on variables which affect the occupational mobility of individuals. The only effective way of obtaining this information was by means of a random sample investigation using interviews.

Organisation of the Chapter

Section 3.1.1 briefly describes the sampling method, survey procedure, and questionnaire itself. Problems encountered in conducting the survey and in drawing up the questionnaire are highlighted.

A description of the sample providing a detailed profile of the characteristics of the respondents is undertaken in Section 3.1.2. Where possible the results are compared with those of other studies.

In Section 3.1.3 the extent and direction of inter-generational occupational mobility is investigated. The conventional inter-generational mobility tables are constructed and analysed. (The tabulation of subjects' occupations by father's occupation yields an intergenerational mobility table and the cross tabulation of later by earlier occupations an intragenerational mobility table.) In this study 'head of the household' (H.O.H.) in which the respondent grew up is substituted for father because of the large number of

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(1) Sorokin, P.A., Social Mobility. New York, Harper. 1927, p. 414.

female-headed homes and homes headed by members of extended families (e.g. grandparents). The present or last job of this H.O.H. is analysed. The flow of labour between the various occupational groups is examined from a number of perspectives which provides some insight into the factors which govern these flows and which reflect the 'distance' between occupations. Initially the analysis is of the percentage outflow of respondents from particular occupations of origin and the percentage inflow into particular occupations of destination. However, these percentages are fairly crude indications illustrating fairly broad flows between occupations.

The influence of occupational origins on occupational destinations is reflected in the relative, not the absolute proportion of respondents with the same origin who end up in a particular destination, specifically in the ratio of the proportion from a given origin in a given occupation to the proportion of the total labour force in this occupation. The resulting ratios are equivalent to Glass' indices of association[1] and they measure the extent to which mobility from one occupation to another surpasses or falls short of chance. Tables of the ratio of observed frequencies to frequencies expected on the assumption of independence are constructed and analysed in Section 3.1.3.2.

The analysis thus far has been concerned with the relationship between particular occupations of origin and occupations of destination. Section 3.1.3.3 deals not with these specific relationships but with the extent to which the outflow or supply from a particular occupation of origin is concentrated into either a few or several occupational destinations, and the extent to which recruitment into a particular occupation is from only a few or a broad base of occupational origins. This is essentially an examination of the randomness of the distribution from, and recruitment into particular occupations, which serves to provide further information on the dynamics of mobility.

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(1) See Chapter 1.

In Section 3.1.4 the conventional intragenerational mobility tables are formed. In Section 3.1.4.1 (as with the inter-generational analysis), concern is initially with proportional movements in percentage terms between occupations of origin and occupational destinations.

The relative proportion of respondents with the same initial jobs who move into different occupational destinations is examined in Section 3.1.4.2.

With the task of description and estimation of mobility complete, attention is turned in Section 3.1.5 to an analysis of the determinants of mobility, that is, to those factors which affect the patterns of mobility observed. Regression and contingency table analysis are of particular importance for the investigation of the simultaneous influence of several factors on occupational achievements and mobility. This is an area neglected by most early studies of occupational mobility. The first of these techniques, regression analysis, is performed in Section 3.1.5.1, and the results are presented and analysed. It is followed by multivariate contingency table analysis in Section 3.1.5.2.

In Section 3.1.6 attention is turned to an analysis of unemployment and its determinants. Multivariate contingency table analysis is again used here.

The results of the survey conducted among household residents in Nyanga, Langa and Guguletu are presented in Section 3.2. A descriptive profile of the sample as well as the salient points about the sampling method and questionnaire are presented in Section 3.2.1. Comparisons with the Soweto sample and national statistics are also undertaken in this section.

In Section 3.2.2 the inter-generational mobility tables are presented and analysed. The same procedures are employed as in Section 3.1.3.1 and 3.1.3.2.

The intra-generational mobility tables are presented in Section 3.2.3. The method is again similar to that followed for Soweto, but the presentation is briefer.

The determinants of mobility are investigated using regression analysis in Section 3.2.4 and multivariate contingency table analysis in Section 3.2.5.

3.1 SOWETO

3.1.1 The Survey

From a town plan of Soweto, 1166 households, the residents of which were to be interviewed, were randomly selected. (See Appendix 1 for a description of the sampling method and notes on reliability).

The questionnaire was directed at all economically active persons over the age of 15 residing in the selected households at the time of the interview. Economically active persons included both employed and unemployed respondents, the unemployed being defined as wanting and able to work but unable to find a job. (The relevant section of the questionnaire is reproduced in Appendix 2).

The subject's year of birth was obtained so that the sample could be grouped in age cohorts in order to give an indication of change over time. The information on occupations, translated into ranked categories is basic to the inquiry into occupational mobility. Together with the information gained from the other questions in the interview a wide range of cross tabulations are made possible in order to establish the effect of certain variables on mobility.

Mobility data are generally of two kinds: data about aggregates and data about individuals. The first type refers to occupational structures and demographic shifts of a population or fractions thereof, while the second type refers to data describing an individual's occupational movement relative to himself or to the head of the household in which he was brought up. The previous chapter dealt with the aggregate or macro data. It is however the flow of manpower in

the occupational structure rather than just this net redistribution necessitated by shifts in demand which constitutes the framework of occupational mobility and it is with this flow, and with the factors which influence the individual's movement as part of this flow, that this chapter is concerned.

The data with respect to occupations rest on the compilation of a ten-year work history for each respondent. Where a respondent has been employed for more than ten years the data is incomplete as only the respondent's first job prior to the last ten years of employment is collected.

The time scale is thus foreshortened. Ideally, it would be desirable to measure occupational mobility by examining the changes in status of an individual throughout his particular generation. The individual's year of birth would be the starting point and at this point occupational status would be equated with that of the head of the household in which he or she grew up. (Duncan argues that because of the problems involved in regarding the classification of the occupations of heads of households as conveying information about a 'generation' of H.O.H's, one should ideally think of it as describing the original status of the individual concerned.[1]) The changes in occupational 'status' throughout the individual's economically active life would then be traced. Applying this method to successive cohorts would yield a series of comparable occupational profiles, showing the nature and extent of intra-generational movement and its end result in the final occupational distribution of the cohorts. The change between the beginning and end of a generation would also be a measure of inter-generational mobility. However, as Glass indicates, unless both subject and father were alive at the time of the survey, it is doubtful whether an enquiry into the occupation of the father at the time of the subject's birth would yield reliable results. Hence the analysis is in general confined to a comparison of the last main

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(1) Duncan, O.D., "Methodological Issues In The Analysis of Social Mobility" in Smelser, N.J., and Lipset, S.M. (eds.), Social Mobility in Economic Development. Routledge and Kegan Paul, London, 1966, pp. 58-63.

status of the H.O.H. with the status of the respondent or subject, at present.[1] A further problem is that there is no certainty that the subject has achieved his or her main occupational status at the time of the interview.

The basic unit of analysis is individually recorded job changes. Occupational categories are aggregations of related jobs. In order to determine whether movement from one occupational origin to another entails upward or downward mobility it is necessary to rank the occupations. Fifteen such categories were compiled which were adapted from those used by Simkins and Hindson[2] which, in turn, were originally based on Glass' aggregations.[3]

The categories are:-

01 Independent and high professional
02 Executive and high administrative in large organisations
03 Professional and salaried professional.
04 Lower executives and similar administrative in large firms, civil service and executives in medium firms.
05 Semi-professional and creative
06A Owners and executives in small private firms.
06B Senior clerical and white-collar technical
07 Clerical/sales/representatives
08A Blue-collar technical
08B Supervisory and inspectional
09A Artisans and apprentices
09B Other skilled manual
10 Routine non-manual, ranks in services, street or market traders
11 Semi-skilled
12 Unskilled.

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(1) Glass, D.V., op. cit., p. 180.
(2) Simkins, C.E.W., and Hindson, D., op. cit., p. 7.
(3) Glass, D.V., op. cit.

These particular categories are not common to all mobility studies. Blau and Duncan have 17 categories[1] while Glass uses 7[2]. The more finely graded the scale, the larger will be the apparent volume of mobility. There is therefore no single measure of 'the rate' of social circulation. These categories should not therefore be regarded as "corporate groups with distinct boundaries and pervasive social interaction among members, neither are they arbitrary categories, but they are meaningful social aggregates...."[3]

The original intention was to conduct a random sample of 1500 economically active residents of Soweto over the age of 15. Due to problems in conducting the survey only 987 interviews were completed. The limited size of this sample is not ideal for the purpose of studying occupational mobility. Because the sample was random subjects were drawn roughly in proportion to their presence in the population. Thus, due to the limited sample size, the number of subjects in higher status occupations (for example the professions, senior executives and administrators) is small and the analysis of data concerning these 'higher' occupational groups is thus limited.

Concentration on subjects in one geographical location is also problematic in that the applicability of the results may be limited to this particular region. Similar results in this study and the Cape Peninsula study (which will be discussed later) would suggest that the analysis has a wider application.

A problem arises in this presentation in that the frequencies (i.e. the number of respondents) varies from table to table and section to section. In many cases the reasons will be obvious to the reader but in some an explanation is required. In the following Table a summary of all frequencies for each Table in the Soweto study is presented and an explanation for variations undertaken.

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(1) Blau, P.M., and Duncan, O.D., The American Occupational Structure. John Wiley & Sons, Inc., 1967.

(2) Glass, D.V., op. cit.

(3) Blau, P.M., and Duncan, O.D., op. cit., p.24.

Summary of Frequencies obtained

Table		Frequency
1	Age Distribution of the Sample	985
2	Composition of the Sample with respect to Legal Status	985
3	Employment Status of the Sample	981
4	Composition of the Sample with respect to School Education	983
5	Composition of the Sample with respect to Post-School Training	253
6	Planned Area of Study	230
7	Reasons for failure to complete schooling	809
8	Occupational Distribution ofthe Sample in 1981	777
9	Distribution of the Sample According to Industry	699
10	Occupational Distribution of Household Heads	943
11	Occupational Distribution of the Sample According to Age	778
12	Educational Distribution amongst Household Heads	751
13	Intergenerational Mobility - Outflow Percentages	749
13b	Intergenerational Mobility - Inflow Percentages	749
14	Intergenerational Mobility - Indices of Association	749
15	Index of Dissimilarity	519
16	Intragenerational Mobility - Outflow Percentages	395
17	Intragenerational Mobility - Indices of Association	395
19	Correlation Matrix	749
20	Correlation Matrix	745
21-27	Tests of Marginal and Partial Association/ Log Linear Parameters	749
28-31	Tests of Marginal and Partial Association/ Log Linear Parameters	924

In most of the tables describing the profile of the sample, the fluctuations are due either to non-response for particular questions, or are indicative of the number of people actually affected by the particular variable under consideration. So for example in both Tables 1 and 2 the frequency is 985 instead of the full complement of 987. This is due to non-response in answering the questions pertaining to either sex, age or legal status. Similarly, for example, there was some non-response in respect of Tables 3, 4, 7,

and 9. In Tables 5 and 6 on the other hand, the frequencies reflect the number of respondents who were affected by the particular question. Thus 253 respondents had some post-school education, and a further 230 intended to acquire some. There may also be an element of non-response here.

Confusion may still arise. For example, Table 3 reflects a total of 266 unemployed and 714 employed. Table 8 however reflects a total of 777 employed in 1981. The reason is again fairly simple in that the respondents in Table 8 had to have been employed at some stage during 1981 but this does not necessarily imply that they were employed at the date of the interview.

Where two or more variables are examined simultaneously (Tables 13, 13b, 14, 16, 17 - 31) there is additional variation in the frequencies as cases where some of the information required is missing are excluded from the analysis. In Tables 16 and 17 the frequencies are especially small as all cases where the respondent has the same occupation as the household head are deliberately excluded from the analysis for that particular section. The greater the number of variables examined simultaneously, the smaller the frequency is likely to be. However the frequencies are likely to vary more, according to which variables are under consideration as some are applicable to most respondents (e.g. age and sex), while others are applicable only to a few (e.g. post-school education.)

3.1.2 Data Description

The interviews in Soweto were conducted during June, July and August, 1981.

Where a sample enquiry such as this is undertaken to collect information not previously compiled, little can be done to test reliability against independent data. However, where possible, comparisons will be made with other studies when presenting a description of the data, and possible reasons for differences advanced, where these occur.

Table 1

Age Distribution of the Sample

Age (years)	Sex				Total	
	Male		Female			
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
19-	11	2,7	29	5,1	40	4,1
20-24	83	20,0	137	24,0	220	22,3
25-34	124	30,0	178	31,2	302	30,7
35-44	62	15,0	104	18,2	166	16,9
45-64	119	28,7	115	20,1	234	23,8
65+	15	3,6	8	1,4	23	2,3
Total	414	100,0	571	100,0	985	100,0

It is apparent that there is a bias towards women in the sample. The primary reason is the problem of making contact. It is probable that women would be more likely to be at home when an interviewer called, due to the far larger proportion of women who are unemployed.[1]

(1) 32,81 per cent of the women and 19,27 per cent of the men in the sample are unemployed. (See Table 3b). Information was only collected about members of the household who were present at the time of the interview in order to minimise error.

Table 2

Composition of the Sample with Respect to Legal Status

Legal Status	Sex				Total	
	Male		Female			
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Section 10(1)a	277	67,0	381	67,0	658	67,0
Section 10(1)b	97	23,4	85	15,0	182	18,5
Section 10(1)c	12	2,9	84	15,0	96	9,8
Section 10(1)d	14	3,4	6	1,1	20	2,0
Illegal	-	-	7	1,2	7	0,7
Unwilling to answer	14	3,4	8	1,4	22	2,2
Total	414	100,0	571	100,0	985	100,0

The small number of contract workers is not surprising as hostels have been excluded from the sample. The results of a separate survey conducted amongst hostel dwellers in the Cape Peninsula will be presented and the effects of legal status on occupational mobility analysed in Chapter 4.

Table 3a

Employment Status of Sample

Status	Frequency	Percentage
Employed	714	72,9
Unemployed	267	27,1
	981	100,0

Table 3b

Employment and Unemployment by Sex

Status	Male	Female
Employed	80,7%	67,2%
Unemployed	19,3%	32,8%
	100,0%	100,0%

These unemployment figures are too high. Simkins' unemployment rates for May 1978 in metropolitan areas were 8,0 per cent and 22,6 per cent for males and females respectively.[1] The reason for these figures being overstated is again probably due to the fact that an unemployed person is more likely to be at home when an interviewer calls than is an employed person.

Table 4

Composition of the Sample with Respect to School Education

Education	Sex				Total	
	Male		Female			
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
None	24	5,8	25	4,4	49	5,0
Sub A-Std.2	27	6,6	36	6,3	63	6,4
Std 3-Std 5	61	14,8	112	19,6	173	17,6
Std 6-Std 7	101	24,5	156	27,3	257	26.1
Std 8-Std 9	119	28,9	177	31,0	296	30,1
Std 10 U.[2]	39	9,5	25	4,4	64	6,5
Std 10	41	10,0	40	7,0	81	8,2
Total	412	100,0	571	100,0	983	100,0

(1) Simkins, C.E.W., "The Current Population Survey and South African Unemployment: Some Puzzles", in du Toit, P.J.D. (ed.) Manpower Utilization: C.P.S. as Information Source, Pretoria, H.S.R.C.

(2) With University Exemption.

Table 5

Composition of the Sample with Respect to Post-School Training

Type of Training	Sex				Total	
	Male		Female			
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Office Routine	7	5,8	46	34,6	53	20,9
Sales/Clerical	16	13,3	5	3,8	21	8,3
Managerial/ Administrative	5	4,2	1	0,8	6	2,4
Semi-skilled	30	25,0	20	15,0	50	19,8
Skilled Manual	37	30,8	3	2,3	40	15,8
Blue-collar technical	7	5,8	24	18,0	31	12,3
Teachers Training-non University.	14	11,7	29	21,8	43	17,0
University degrees	4	3,3	5	3,8	9	3,6
Total	120	100,0	133	100,0	253	100,0

Of those who undertook some form of post-school training, approximately 12 per cent did not successfully conclude thei training.

It was obvious while conducting the surveys that education was regarded as a priority by residents of Soweto. Of the economically active residents interviewed, 23 per cent stated that they definitely intended to undergo further education and training. Of these respondents, 8,3 per cent had only a primary level of education while the remaining 91,7 per cent had some secondary schooling. 40,4 per cent had already undergone some post-school training.

Table.6

Planned Area of Study

Field	Frequency	Per Cent
Office Routine	23	10,0
Sales/Clerical	14	6,1
Managerial/administrative	7	3,0
Semi-skilled	15	6,5
Skilled	23	10,0
Nursing/Blue-collar Technical	18	7,8
Teachers Training - (Non-University)	8	3,5
Bachelor's Degrees	30	13,0
Post-graduate Degrees	2	0,9
Completion of Schooling	81	35,2
Semi-Professional	9	3,9
	230	100,0

Of those who intend to study further the largest proportion wish to either further or complete their schooling, most through attending night school.

Table 7

Reasons for Failure to Complete Schooling

Reasons	Sex				Total	
	Male		Female			
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Financial	227	70,9	332	67,9	559	69,1
Wanted to start work	38	11,9	27	5,5	65	8,0
Too Difficult	31	9,7	38	7,8	69	8,5
Fell Pregnant	-	-	47	9,6	47	5,8
School Disturbances	7	2,2	11	2,3	18	2,2
Marriage	1	0,3	10	2,0	11	1,4
Responsibility at home	5	1,6	11	2,3	16	2,0
Delinquency	7	2,2	2	0,4	9	1,1
Health	4	1,3	11	2,3	15	1,9
Total	320	100,0	489	100,0	809	100,0

Although the reasons given for not being able to complete schooling vary, the majority of respondents who were not able to do so were prevented by a lack of finance.

Table 8

Occupational Distribution of the Sample in 1981

Occupation	Sex				Total	
	Male		Female			
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
High Professional	0	-	1	0,2	1	0,1
Executive and senior administrative	0	-	0	-	0	-
Salaried Professional	0	-	0	-	0	-
Lower Executive	3	0,8	1	0,2	4	0,5
Semi-Professional and Creative	16	4,5	27	6,4	43	5,5
Owners and Executives in Private Firms	0	-	2	0,5	2	0,3
Senior Clerical	13	3,7	5	1,2	18	2,3
Clerical/Sales Representatives	30	8,4	23	5,5	53	6,8
Blue-Collar Technical	10	2,8	34	8,1	44	5,7
Supervisory and Inspectional	7	2,0	3	0,7	10	1,3
Artisans & Apprentices	4	1,1	0	-	4	0,5
Other skilled manual	35	9,9	7	1,7	42	5,4
Routine Non-manual	60	16,9	93	22,1	153	19,7
Semi-skilled	136	38,2	87	20,7	223	28,7
Unskilled	42	11,8	138	32,8	180	23,2
Total	356	100,0	421	100,0	777	100,0

The greatest proportion of the workforce is concentrated in the semi-skilled and unskilled manual categories. As will be shown there is considerable fluidity between these two employment categories. Although overall the unskilled category is smaller than the semi-skilled category, more women are employed in the former. This is primarily due to the large number of women domestics. A high proportion of the labour force is also employed in the routine non-manual category. The relatively large number of women employed in the blue-collar technical category is due to the fairly large number of women nurses. The fact that a far greater proportion of the labour force in the sample was employed in non-manual occupations than was found from national statistics[1] is due primarily to the exclusion of the bulk of contract workers from the sample.

(1) See Chapter 2.

Table 9

Distribution of the Sample According to Industry

Industry	Sex				Total	
	Male		Female			
	Frequency	Percentages	Frequency	Percentages	Frequency	Percentages
Fishing	0	-	0	-	0	-
Mining	3	1,0	1	0,3	4	0,6
Manufacturing	84	27,2	91	23,3	175	25,0
Electricity, Gas and Water	7	2,3	1	0,3	8	1,1
Construction	27	8,7	2	0,5	29	4,2
Commerce	95	30,7	110	28,2	205	29,3
Transport	20	6,5	8	2,1	28	4,0
Finance	19	6,2	6	1,5	25	3,6
Services	54	17,5	171	43,9	225	32,2
Total	309	100,0	390	100,0	699	100,0

The greatest proportion of the sample are employed in services. This is due to the large number of women domestic workers but there are also a significant number of teachers and nurses in this category. The next largest category is commerce which includes most of the clerical and sales workers and also a large number of drivers, messengers, packers, etc., most employees in manufacturing are semi-skilled workers but there is also a small group of skilled workers and supervisors. Construction consists primarily of unskilled and semi-skilled workers but there is a significant group of skilled workers in this industry as well. The reason for so small a percentage of the sample being employed in the mining industry is again that hostels were excluded from the survey. This is also likely to have affected the proportions in other industries as well although not to as great an extent.

Table 10

Occupational Distribution of Heads of Households

Occupation	Frequency	Percentage
High Professional	1	0,1
Senior Executives in large firms	0	-
Salaried Professionals	0	-
Lower Executives	2	0,2
Semi-professional and creative	55	5,8
Owners and Executives in private firms	8	0,8
Senior Clerical and White-collar Technical	2	0,2
Clerical/sales/representatives	12	1,3
Blue-collar technical	16	1,7
Supervisory and Inspectional	7	0,7
Artisans and Apprentices	0	-
Other skilled manual	33	3,5
Routine non-manual	147	15,6
Semi-skilled	231	24,5
Unskilled	390	41,4
Farm	39	4,1
TOTAL	943	100,0

It is important to note that the occupational distribution above does not pertain to any determinate point in time. The respondents were asked for the present or last job of the H.O. in which they grew up, and these obviously are at different points in time. Nevertheless, it can be observed that almost twice as many workers in the H.O.H. 'generation' are or were employed in the unskilled category as compared to the respondents' generation. The proportion employed in non-manual and more skilled manual jobs is far smaller than the proportion of subjects so employed. Most notable is the far greater proportion of respondents employed in the blue-collar technical category; clerical, sales, and representatives category; and skilled manual category, which is prima facie evidence of occupational mobility into these categories. This will however be dealt with in a subsequent section.

In order to evaluate the extent to which the workforce covered has become more skilled over time it was divided into two age cohorts. The first cohort includes all respondents aged 15-32, and the second, all respondents aged 33 or older. (32 is the median point for the sample).

Table 11 shows the division of the sample into the various occupational categories for each of the two cohorts.

Table 11

Occupational Distribution of the Sample According to Age

Occupation	Age			
	15 - 32		33+	
	Frequency	Percentage	Frequency	Percentage
High Professional*	0	0	1	100
Senior Executive*	0	0	0	0
Salaried Professional*	0	0	0	0
Lower Executives*	1	25	3	75
Semi-professional	26	59	18	41
Private owners*	0	0	2	100
Senior Clerical/W.C.T	11	61	7	39
Clerical/Sales/Reps	37	70	16	30
Blue-collar Technical	25	57	19	43
Supervisory	4	40	6	60
Artisans and Apprentices*	3	75	1	25
Skilled manual	26	62	16	38
Routine non-manual	86	56	67	44
Semi-skilled	95	43	128	57
Unskilled	79	44	101	56
TOTAL	393	50,5	385	49,5

* The frequencies in categories denoted with an asterisk are too small for reliability and are therefore ignored.

From the above Table it is evident that most of the respondents employed in more skilled occupations are in the 15-32 age group. Only in the unskilled; semi-skilled and supervisory employment categories are a greater percentage of the respondents in the 33+ age cohort. This supports the impression that the more skilled ocupations have become relatively more important over time and that there is a flow of labour into them. The fact that a

greater proportion of the sample who are employed as supervisors are in the 33+ age cohorts, may be due to the fact that employment in this category is often gained through long service, and thus older people would be more likely to be employed in it.

Table 12

Educational Distribution Amongst the Heads of Households in which the Respondents grew up

School Standard	Frequency	Percentage
None	212	28,2
Sub A - Std. 2	195	26,0
Std.3 - Std. 5	177	23,6
Std.6 - Std. 7	115	15,3
Std.8 - Std. 9	52	6,9
Std.10	0	0
	751	100,0

There is a far greater concentration of H.O.H's at lower levels of education than for the respondents themselves. This points to an overall improvement of the educational standards of the sample population (this cannot be evaluated accurately as some respondents may have been educated before some of the members of the H.O.H. group.). However, it is clear that despite the possibility of anomalous cases the respondents are significantly better educated than the H.O.H.'generation' which is likely to be an important determinant of the observed increase in employment in more skilled categories. This observation is supported by Nyquist's findings which revealed that 85 per cent of the Africans in his sample were better educated than their fathers.[1]

(1) Nyquist, T., Towards a Theory of The African Upper Stratum In South Africa. Ohio University Center for International Studies Papers in International Studies, Africa Series No. 15, 1972,p.10. For an account of the increased emphasis on "Bantu Education" see Kane-Berman, J., Soweto-Black Revolt, White Reaction. Ravan Press, 1978, pp. 183-191.

3.1.3 Inter-generational Occupational Mobility Amongst Economically Active Residents of Soweto

3.1.3.1 Mobility Patterns

Tables 13a, 13b and 14 compare the present occupational status of the subjects interviewed with that of the head of the households in which the subjects grew up. It should be noted that certain of the occupations have been grouped, as the frequencies in each were too small to render reliable results. The high, salaried, and semi-professional employment categories are aggregated into a single category and similarly, the senior executive, low executive, and owners and executives in small private firms categories into another single category.

In Table 13a the percentages in the rows reveal the outflow from occupational origins to occupational destinations. For example in the professional category the cells illustrate that among subjects whose H.O.H's were in this category, 26 per cent are themselves in this category, 10 per cent are in the clerical category, 14 per cent in the blue-collar technical category, etc. By observing the percentages in the cells lying along the diagonal in the table, the extent to which occupational status has remained constant as between the subjects and H.O.H's can be seen. This appears most notable for the semi-skilled category and least notable (excluding occupations that have zero values in the diagonal cells) for the skilled manual category (a probable reason being the historical racial barrier to entry in the latter occupational category until relatively recently with the result that very few members of the H.O.H. 'generation' would have been employed in this category.) Where the H.O.H's are in the 'low' categories of employment, the smaller is the corresponding proportion of subjects in the middle to upper categories. However the converse does not seem to hold as there is no clear pattern for the distribution of subjects where the H.O.H's are in a higher category

of employment. This suggests that subjects from 'lower status' origins (in terms of the H.O.H's occupation), tend themselves to be employed in less skilled, primarily manual occupations. Subjects from households in which the head was employed in the professional category, are concentrated in other non-manual occupations. For the sample as a whole, approximately 50 per cent of the respondents are employed in higher ranking occupations than those held by the H.O.H. in which they grew up,[1] approximately 17 per cent are employed in lower ranking occupations and the balance have remained in the same employment categories as their respective household head. These are crude measures which will be refined later.

The table reveals considerable changes in occupational status between successive generations. The raw percentages indicate for example, that for subjects whose H.O.H. were professionals, over 70 per cent were employed in lower categories, while subjects whose H.O.H. had been employed in the semi-skilled category, over 45 per cent were found in 'higher' status occupational categories than the H.O.H. in which they grew up.

Some anomalous results do appear. In several cases these can be ascribed to the small frequencies in the particular categories. For example, 100 per cent of the subjects from homes where the H.O.H. was in the senior clerical category of employment were themselves in the routine non-manual category. However this is likely to be due to the small proportion of the sample falling into the former category of employment and the result can therefore not be accepted without further evidence. Categories where the frequencies are too small to be reliable are identified in Table 13a and b by an asterisk.

Where these cases in Table 13a are ignored the percentages are highest in the major diagonal (except in the skilled manual category)

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(1) Nyquist found that 75 per cent of the respondents in his study held higher ranking occupations than their fathers held. op cit., p. 10.

and tend to decrease as they move further from it. This reflects a tendency towards occupational inheritance. Where the subject originates from an occupational category 'below' the artisan level there is a tendency for the occupational status to cluster around that of the H.O.H. which also points to occupational inheritance. This characteristic association does not manifest itself in this way at 'higher' levels of employment.

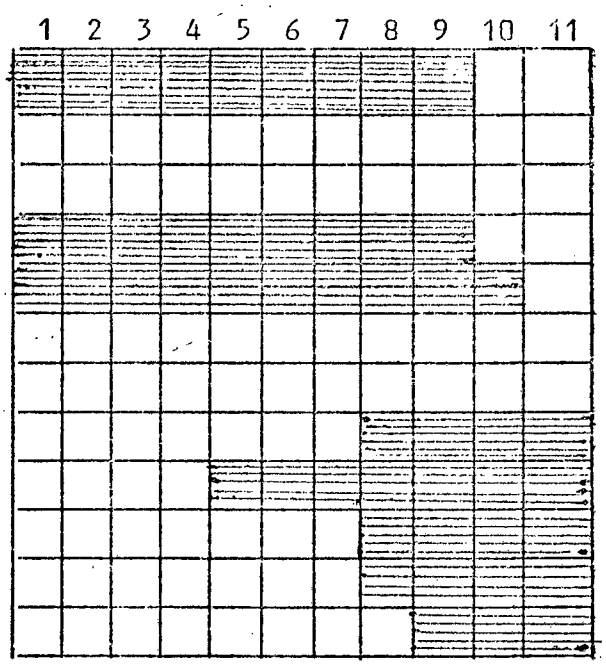
Figure 1 illustrates the degree to which occupations of destination cluster around the occupation of origin. The procedure followed in drawing the figure is to first take the percentage in the diagonal for each row, and then move out evenly on both sides until 80 per cent of the respondents for each occupation of origin are included in the group.

Figure 1

H.O.H. Occupation:

1. Professional
2. Bourgeois
3. Senior Clerical
4. Clerical
5. Blue-collar technical
6. Supervisory
7. Artisan
8. Skilled Manual
9. Low non-manual
10. Semi-skilled
11. Unskilled
12. Farm

Respondents' Occupation



The shaded portion of the figure thus indicates the group of occupations ('closest' to the occupation of origin) into which there is an 80 per cent probability that the respondents from the given category of origin will fall. Categories in which the frequencies were too small for reliability have not been shaded.

It is clear that the tendency for the respondents' occupations to cluster around those of the H.O.H's is far more pronounced at lower levels of occupational origin. Respondents whose H.O.Hs were employed in manual occupations thus have a maximum of a 20 per cent chance of being employed in any category above the skilled manual level. On the contrary, respondents whose H.O.Hs were employed in professional or clerical categories, have an 80 per cent chance of being employed in the group of occupations excluding only the semi-skilled and unskilled categories.

Table 13b indicates what percentage of the respondents in each occupational category in 1981 were recruited from the various occupational origins. It shows for example that a consistently high proportion of the respondents in all occupational categories were recruited from homes in which the head was an unskilled worker. There are two primary reasons for this result, firstly, the large size of this category for the 'H.O.H. generation' (42,3 per cent of the total work force covered), and secondly, the rapid decline on the size of this category for the 'respondents' generation (23,0 per cent of the total workforce in the sample, i.e. a change of 19,3 per cent).

There is considerable variation in the degree of recruitment between different occupational categories. Unskilled workers display the highest volume of self recruitment, recruiting just less than 38 per cent from other occupational origins. On the other hand the clerical and blue-collar technical categories both recruit over 90 per cent of their workforce from other categories. This is a somewhat surprising result as both these categories displayed a high level of occupational inheritance. This apparently paradoxical result is due to the fact that these two categories were growing too fast to satisfy the increasing demand for labour from within their own ranks. Thus an increasing percentage of labour for these categories must be recruited from other occupational origins. Self-recruitment generally appears to be greater in the 'lower status' levels of employment in that the majority of respondents employed in these occupations originate from homes in which the head was employed either in the same or an 'adjacent' category

to that of the subject.

The clerical and skilled manual categories both recruit over 70 per cent of their employees from 'lower' origins which is indicative of the increasing degree of black upward mobility into these categories. The results are similar for artisans and apprentices but the frequencies in this category are too small to render reliable results. Upward mobility into the blue-collar technical category is also marked.

Blau and Duncan indicate that although percentages within the same column can be compared, direct comparisons across these columns are not particularly meaningful.[1] Thus, although for example respondents originating from the professional category are four times more likely to become employed in the low non-manual category than in the supervisory category, this is largely due to the fact that nearly 15 times as many of the respondents are employed in the former category as can be seen from the total column in Table 13a. A method of investigating the means of achieving high status which is as important as the end product must be developed. This can be done by examining relative mobility, that is, the differential opportunities of gaining high status available to individuals of different socio-economic origin.

3.1.3.2 Relative Mobility

Thus although the above discussion and percentage tables are useful descriptive illustrations, it is the relative and not the absolute proportion of respondents with the same origin who end up in a particular occupation which indicates the influence of social origins on occupational destinations. It is also possible to avoid the problem arising where the categories are of different sizes by using this approach.[2]

The last row in Table 13a which presents the percentage distribution of the sample in the various occupational categories, serves

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(1) Blau, P.T., and Duncan, O.D., op. cit., p.29.

(2) See Blau, P.T., and Duncan, O.D., op. cit., p.35 and Glass, D.V., op. cit., p. 189.

as the standard against which all percentages in the matrix are compared. By dividing each value in the matrix by the figure in the total row at the bottom of the column in which it appears, indices of the influence of occupational origins on occupational destinations can be calculated.[1] Where the occupation of the respondent is independent of that of the respective H.O.H. the particular index of association is equal to 1.0. This represents random or 'perfect' mobility.[2] Where each destination group has the same distribution of origins as the total population and each origin group has the same distribution of destinations as the total population all indices will be 1,0.[3] The extent to which the observed mobility ratios diverge from perfect mobility indicates the extent to which the occupation of origin (H.O.H's occupation) influences the respondent's occupation (i.e. it indicates to what extent the association between the H.O.H's occupational status and respondent's occupational status is random.) The higher the index of association the higher the degree of maintenance of the H.O.H's status.[4] The observed intergenerational mobility ratios corresponding to Table 13a are presented in Table 14.

An attempt is again made to avoid the problem arising where the frequencies in certain categories are too low to render reliable results by aggregating.[5] Following the example of Blau and Duncan values greater than 1,0 are underlined to convey a visual impression of the overall flow of manpower.

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(1) See Blau, P.T., and Duncan, O.D., op. cit. p. 35.
Glass, D.V., op. cit., pp. 194-198.
This index is analagous to Glass' index of association which was described in Chapter 1.

(2) Glass, D.V., ibid., p. 195.

(3) Blau, P.T., and Duncan, O.D., op. cit., p. 35.

(4) Ibid., p. 32.

(5) Where the frequencies in cells nevertheless remain zero, it can only be assumed from the available information that there is no mobility between the two occupational categories concerned.

Table 13a: Mobility from H.O.Hs' Occupation to Respondents' Occupation in 1981 : Outflow Percentages

Respondents' Occupation - 1981

H.O.H. Occupation	Professional	Bourgeois*	Senior Clerical	Clerical	Blue-Collar Technical	Super-visory	Artisan	Skilled Manual	Low Non-Manual	Semi-Skilled	Un-Skilled	
Professional	26,0	2,0	10,0	10,0	14,0	2,0	2,0	2,0	16,0	8,0	8,0	
Bourgeois*	—	—	—	—	14,3	—	—	—	14,3	57,1	14,3	
Senior Clerical*	—	—	—	—	—	—	—	—	100,0	—	—	
Clerical	27,3	—	—	27,3	9,1	—	—	—	18,2	9,1	9,1	
Blue-collar technical	7,1	—	—	—	28,6	—	—	14,3	14,3	14,3	21,4	
Supervisory*	—	—	—	—	14,3	—	—	—	14,3	57,1	14,3	
Artisan*	—	—	—	—	—	—	—	—	—	—	—	
Skilled-Manual	—	—	—	8,0	8,0	—	—	20,0	20,0	20,0	24,0	
Low Non-manual	3,7	0,9	1,9	10,3	8,4	0,9	0,9	10,3	28,0	27,1	7,5	
Semi-skilled	2,8		3,9	6,1	1,7	2,8	0,6	3,9	23,9	37,8	16,8	
Unskilled	5,4	1,0	1,3	6,0	5,1	1,0	0,4	3,5	17,0	25,9	33,8	
Farm	—	3,3	—	3,3	—	—	—	6,7	10,0	40,0	36,7	
Total	5,7	0,8	2,4	6,9	5,9	1,3	0,5	5,2	20,0	28,2	23,0	100,0

Note: The total row illustrates the percentage which each category constitutes of the total workforce.
* Denotes categories in which the frequencies are too small for reliability.

Table 13b Mobility from H.O.H. Occupation to Respondents' Occupation in 1981 : Inflow Percentages

Respondents' Occupation

H.O.H. Occupation	Professional	Bourgeois*	Clerical	Blue-collar Technical	Supervisory	Skilled Manual	Low Non Manual	Semi Skilled	Un-Skilled
Professional	30,2	16,7	14,3	15,9	10,0	4,7	5,3	1,9	2,3
Bourgeois	-	-	-	2,3	-	-	0,7	1,9	0,6
Clerical	7,0	-	4,3	2,3	-	-	2,0	0.5	0,6
Blue-collar Technical	2,3	-	-	9,1	-	4,7	1,3	1,0	1,7
Supervisory	-	-	-	2,3	-	-	0,7	1,9	0,6
Skilled Manual	-	-	2,9	4,6	-	11,6	3,3	2,4	3,5
Low Non-manual	9,3	16,7	18,6	20,5	10,0	27,9	20,0	13,7	4,7
Semi-skilled	11,6	-	25,7	6,8	50,0	18,6	28,7	32,2	17,4
Unskilled	39,5	50,0	32,9	36,4	30,0	27,9	36,0	38,9	62,2
Farm	-	16,7	1,4	-	-	4,7	2,0	5,7	6,4
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0

NOTE: Columns may not total to 100,0 due to rounding.

Table 14: Mobility from H.O.H. Occupation to Occupation in 1981 for all Respondents: Ratios of Observed to Expected Frequencies on the Assumption of Independence.

Respondents' Occupation - 1981

H.O.H. Occupation	Professional	Bourgeois *	Senior Clerical	Clerical	Blue-Collar Technical	Super-visory	Artisan*	Skilled Manual	Low Non-Manual	Semi-skilled	Un-skilled	
Professional	4,5	2,5	4,2	1,4	2,4	1,5	3,8	0,4	0,8	0,3	0,4	
Bourgeois*	—	—	—	—	2,4	—	—	—	0,7	2,0	0,6	
Senior Clerical*	—	—	—	—	—	—	—	—	5,0	—	—	
Clerical	4,8	—	—	3,9	1,6	—	—	—	0,9	0,3	0,4	
Blue-Collar technical	1,2	—	—	—	4,9	—	—	2,7	0,7	0,5	0,9	
Supervisory*	—	—	—	—	2,4	—	—	—	0,7	2,0	0,6	
Artisan *	—	—	—	—	—	—	—	—	—	—	—	
Skilled-Manual	—	—	—	1,2	1,4	—	—	3,8	1,0	0,7	1,1	
Low Non-Manual	0,7	1,2	0,8	1,5	1,4	0,7	1,8	2,0	1,4	1,0	0,3	
Semi-skilled	0,5	—	1,6	0,9	0,3	2,1	1,1	0,8	1,2	1,3	0,7	
Unskilled	0,9	1,2	0,5	0,9	0,9	0,7	0,7	0,7	0,9	0,9	1,5	
Farm	—	4,2	—	0,5	—	—	—	1,3	0,5	1,4	1,6	

* Denotes categories in which the frequencies are too small for reliability.

The first point to notice is that all the values in the main diagonal are notably greater than expected on the assumption of independence. This points to the fact that occupational inheritance is in almost all cases (excluding those cells where the frequency is zero) greater than expected. There is however a scattering of underlined values off the diagonal which indicates that there is some mobility between the categories. Approximately 39 per cent of the cells taken into account (i.e. in categories not denoted with an asterisk) which lie off the diagonal are greater than 1,0 which is indicative of a significant degree of mobility between the strata, despite the high values in the principal diagonal.

Upward mobility in excess of expectations (i.e. where the underlined values lie to the left of the diagonal), is more prevalent than downward mobility (where the underlined values lie to the right). The underlined values tend to be clustered around the diagonal and there are no such values in the upper right or lower left regions of the table which would be evidence of 'long-distance' mobility.

Upward mobility exceeding expectations on the assumption of independence is most notable from the clerical into the professional category. There is also some mobility exceeding expectations from the blue-collar technical category into this category. Thus all the upward mobility in excess of expectations, into the professional category is from other non-manual categories of employment. This is in broad agreement with the findings of Blau and Duncan in America, although they found there was excessive mobility into the semi-professional category from skilled manual origins as well, but not to as significant an extent as from other non-manual occupations.[1] Upward mobility occurs in excess of expectations from both the skilled manual, and low non-manual

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(1) Blau, P.T., and Duncan, O.D. op. cit., p. 32.

categories into the clerical and blue-collar technical categories. Where this is examined separately for males and females (See Appendix 3) it can be seen that males are upwardly mobile in numbers exceeding expectations only from the skilled manual category of origin into the clerical category. Women are upwardly mobile in 'excessive' numbers into both the clerical and blue-collar technical category. The reason behind this is probably that women from homes in which the head was a skilled worker or low non-manual worker, are more likely to become employed as nurses than in any other occupation. Women from semi-skilled origins are also upwardly mobile in numbers exceeding expectations into the supervisory and low non-manual occupational categories. The relative growth of both of these categories has been extremely rapid and most of the movement into the latter has been amongst women. Men from semi-skilled origins (in terms of the H.O.H's occupation), move in excessive numbers into the senior clerical, clerical, and supervisory categories. On average, however, there is no excessive mobility from the semi-skilled into the clerical category of employment. This mobility from semi-skilled origins is contrary to findings in the United States of America where upward mobility from this category exceeds expectations only into other, (albeit more skilled) manual employment categories.[1] Upward mobility is also apparent from the farming origins - into the skilled manual, semi-skilled and unskilled categories.

Downward mobility (in numbers exceeding what would be expected on the assumption of independence), is most frequent for respondents originating in the professional employment category and occurs into the senior clerical, clerical, blue-collar technical and supervisory categories. There is no notable discrepancy between men and women here. The concept of downward mobility is a problematic one here. It occurs from the semi-professional category primarily into other non-manual occupations. Furthermore, it is often a result of a deliberate choice amongst individuals

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(1) Blau, P.T., and Duncan, O.D., ibid., p. 32.

originating from homes in which the head was employed in this category of origin (the majority of whom are teachers), to seek employment in more lucrative jobs. It is thus not experienced by the individuals concerned as being downward mobility, and indeed may well be experienced by them as upward mobility.

There is also downward mobility in excess of expectations (amongst males only) from the blue-collar technical category into the skilled manual category. Most blue-collar technical workers in the sample were nurses and it is probable that this result reveals a tendency amongst male respondents born in female-headed households where the head was a nurse to become employed in the skilled manual category. Downward mobility in excess of what would be expected on the assumption of independence is also apparent from the skilled manual into the unskilled employment category.

Occupational inheritance is significantly greater in occupations requiring a higher level of education and training (i.e. blue-collar technical, professional, clerical, and skilled manual categories).[1] This link between occupational inheritance and education will be investigated in detail later. If all non-manual occupations are grouped into one category and all manual occupations into another, there is mobility (in excess of what would be expected on the assumption of independence) into the non-manual category only from occupational origins in the same category. Similarly there is excessive mobility into the manual category only from similar origins in terms of the H.O.H's occupation. This is indicative of the conventional barrier between occupations generally regarded as working class, and occupations regarded as middle class. (See Appendix 4, Table 1b).

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(1) This concurs with Glass' findings in Great Britain, where he found that the highest intensity of association between parental and filial status was among subjects in the professional and high administrative category and the managerial and executive category. (See Chapter 1).

3.1.3.3 Concentration of Supply and Recruitment

Further detail on the mobility patterns between the categories of the occupational structure can be achieved by examining the degree to which supply from, and recruitment into, these categories is concentrated. The outflow of labour from a specified occupation of origin may disperse to supply many different occupational destinations or may be concentrated to supply only a few. Similarly, the recruitment of labour into a particular occupation may be from a wide or narrow base of origins.

Although the volume of supply and of recruitment to and from particular occupations depends directly on the number of respondents whose H.O.H's had the same occupation, the degree of dispersion of supply and of recruitment do not. It is the number of underlined entries in each row of Table 14 irrespective of their values, that indicates dispersion of supply and the number of underlined entries in each column indicates dispersion of recruitment. It can be observed that the supply of labour from higher non-manual origins is excessive primarily to similar occupational destinations. Supply is less concentrated at lower levels of employment. Recruitment at higher levels of employment is relatively dispersed (i.e. from a wider base of occupational origins) due to the fact that the extent of absolute and relative growth in these categories of employment, necessitate considerable recruitment from other occupational categories. It should be emphasised that these are crude measures of dispersion and supply.

A refined index of the extent of concentration (or dispersion), which takes the quantitative differences in percentages into account rather than just dichotomizing them can be devised by summing the differences between each percentage in the body of the matrix in Table 13a and the total percentage at the bottom of each column,[1] (only differences of the same sign). For example the

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(1) Blau, P.T., and Duncan, O.D., ibid., p. 43.

degree of concentration in the destinations of respondents whose H.O.H. were professionals is (26-5,7)+(2-0,8)+(10-2,4)+(10-6,9)+(14-5,9)+(2-1,3)+(2-0,5) which equals 42,5. Where the H.O.H's occupation exerts no influence and the destination of respondents from a particular employment category is identical with that of the whole population, the idex value is zero.[1] The more concentrated the respondents from a given origin in a particular destination, the closer the index would be to 100,0. Thus this "index of dissimilarity" measures how much more concentrated the destinations of respondents from a given origin are than those of all respondents in the sample.[2] A high value indicates low dispersion from the given origin. The corresponding index for inflow shows how concentrated the origins of respondents in each occupational destination are.[3]

Blau and Duncan introduce a further refinement to remove the influence of occupational inheritance, as concern here is with the outflow from, or inflow into, different occupations. They do this by excluding men in the same occupational category as their fathers from the analysis. Following their example, the cell frequencies in the principal diagonal of Table 13a are excluded before calculating the index of dissimilarity.[4] (See Table 15). The procedure is then followed in constructing similar indices for recruitment or inflow into the occupational categories.

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(1) Ibid., p. 43.

(2) Blau, P.T., and Duncan, O.D., ibid, p. 43.

(3) ibid., p. 44.

(4) For an explanation of this procedure see Goodman, L.A. "On The Statistical Analysis of Mobility Tables", American Journal of Sociology, Volume 70, 1965, pp. 564-585.

Table 15

Index of Dissimilarity Between Destination or Origin Distribution of Vertically Mobile Respondents and Distribution Expected on the Model of Quasi-Independence, for Specified Origin or Destination.[1]

Occupation of Origin or Destination - H.O.H. Occupation to Respondents Occupation in 1981	Concentration[2] of Supply	Concentration of[3] Recruitment
Professional[4]	27,61	25,88
Bourgeois[5]	37,94	31,80
Clerical[6]	41,16	17,65
Blue-collar Technical	34,38	22,25
Supervisory	37,94	31,29
Skilled Manual[7]	21,65	20,07
Routine Non-manual	26,46	19,88
Semi-skilled	35,23	27,83
Unskilled	16,68	44,16

(1) The Method followed in calculating these indices is based on that used by Blau, P.T., and Duncan, O.D., op. cit., p.46.

(2) Destination distribution for origin listed in stub.

(3) Origin distribution for destination listed in stub.

(4) This category has been aggregated from the high salaried, and semi-professional categories in which the frequencies were individually too small to be reliable.

(5) Aggregated from executives in large firms, lower executives, and owners and executives in small private companies.

(6) Aggregated from senior clerical and clerical categories.

(7) Aggregated from artisans and apprentices, and other skilled manual categories.

From Table 15 it can be seen that the degree to which respondents are dispersed from the given category of origin is highest for the unskilled occupational category (a low-value indicates high dispersion or low concentration of supply from that origin). This concurs with the conclusions deduced from Table 13b that there is a considerable outflow from this category as a category of origin to other occupational destinations for the respondents. This is due to the large proportion of the labour force found in this category of employment, and to the fact that it has been declining relatively from the H.O.H's 'generation', to the respondents' 'generation'. The concentration of dispersion is lowest from the clerical, sales and representatives category probably as a result of the rapid absolute and relative growth of this category. This rapid growth leads to a high degree of occupational inheritance and outward mobility is disproportionately large into the professional category only.

Concentration of recruitment is highest in the unskilled/ occupational category which again supports the finding that the boundary between this and the semi-skilled category is fluid, as most of the mobility into the unskilled category is by respondents originating in the semi-skilled category. The clerical, sales and representatives category, the routine non-manual category, and the skilled manual category all seem to recruit from a relatively widely dispersed base of origins which indicates that there is mobility into these categories from a relatively wide base in 'disproportionately' large numbers.

Since most mobile respondents tend to move relatively short distances, those in the highest and lowest positions on the occupational 'ladder' are by definition less able to come from or move into as many different occupations as those in intermediate positions as the range for the former is shorter, (i.e. in one direction only).

In essence then, these indices are indicative of the randomness of the origin distribution of respondents recruited into an occupation or of the destination distribution of the respondents supplied to other occupations.[1] They serve to provide greater detail on the mobility patterns but do not extend the analysis.

3.1.4 Intra-generational Mobility Amongst Economically Active Residents of Soweto

3.1.4.1 Mobility Patterns

From the outflow percentages in Table 16 it can be seen that there is a significant tendency for respondents to remain employed in the same category of employment once they have entered the labour market. This is indicated by the high percentages in the diagonal. This is particularly notable in the senior clerical, clerical, blue-collar technical, skilled manual and semi-skilled categories where the percentage of respondents who remain in these categories is over 80 per cent.

The proportion of the sample employed in the aggregated, professional and unskilled employment categories is smaller for 1981 than for initial employment. This is not surprising in the latter category as it has already been shown that the proportion of the workforce employed in it is declining, and that it is the largest supplier of labour to other categories. The probable reason for the decline in the proportion of the sample in the professional category between the first job and 1981 job, is the incidence of subjects training as teachers and starting off as teachers, but subsequently moving to more lucrative categories of employment.

3.1.4.2 Relative Mobility

It is again necessary to examine the relative proportion of respondents with the same initial jobs who move into different occupational destinations as the percentage tables are influenced by the sizes of the different categories.

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(1) Blau, P.T., and Duncan, O.D., op. cit., p.47.

Table 16: Mobility from First Job to Occupation in 1981 : Outflow Percentages

Respondents' Occupation - 1981

First Job	Professional	Bourgeois	Senior Clerical	Clerical	Blue-Collar Technical	Super-visory	Artisan	Skilled Manual	Low Non-Manual	Semi-Skilled	Un-Skilled	Total
Professional	62,5	4,2	4,2	8,3	—	—	—	—	4,2	16,7	—	6,1
Bourgeois*	—	50,0	—	—	—	—	—	—	—	50,0	—	0,5
Senior Clerical	—	20,0	80,0	—	—	—	—	—	—	—	—	1,3
Clerical	—	—	7,1	92,9	—	—	—	—	—	—	—	3,5
Blue-collar Technical	—	—	—	—	—	—	—	—	—	—	—	—
	5,0	5,0	—	—	90,0	—	—	—	—	—	—	5,1
Supervisory*	—	—	—	—	—	50,0	—	—	—	50,0	—	0,5
Artisan	—	—	—	—	—	—	—	—	—	—	—	—
Skilled-Manual	—	—	—	—	—	5,0	—	85,0	5,0	5,0	—	5,1
Low Non-Manual	1,5	1,5	—	8,7	1,5	—	—	1,5	73,9	10,2	1,5	17,5
Semi-skilled	0,9	—	—	1,0	—	1,8	—	0,9	6,4	85,3	3,7	27,6
Unskilled	—	—	—	—	0,8	0,8	—	1,6	9,4	18,0	69,5	32,4
Total	4,6	1,3	1,5	5,6	5,0	1,3	—	5,3	18,5	33,2	23,8	100,0

Note: The Total row illustrates the proportion which each category constitutes of the total Workforce.

* Denotes categories in which the frequencies were too small for reliability.

Table 17 corroborates the earlier findings that there is a strong tendency for respondents to remain in the same occupations. Thus the indices in the principal diagonal are in all cases significantly greater than the other indices in each row.

There is however a scattering of underlined values off the principal diagonal, excessive upward movements outnumbering excessive downward movements by 8:3. The values of the mobility ratios decrease as they move further away from the major diagonal which suggests that the closer two occupations are to one another on the occupational 'hierarchy', the greater is the probability that a subject will be mobile between them.

There is considerable upward mobility from the initial employment in the senior clerical category, to employment in the low executive employment category in 1981. Upward mobility also occurs from initial employment in the blue-collar technical category into both the semi-professional and lower executive categories. There is similarly upward mobility into the Senior Clerical and Clerical occupational categories. It is apparent from the above description that upward mobility into particular non-manual occupations is in all cases from other non-manual occupations situated lower on the occupational hierarchy. Respondents who start their careers as unskilled workers do not move in proportionately excessive numbers to any 'higher' occupations. Respondents beginning their careers in the semi-skilled category of employment move in excessive numbers only into the supervisory category of employment. It is probable that employment in this latter category is often gained through long service in the semi-skilled and skilled employment categories. There is no excessive mobility from initial employment in any category into the blue-collar technical, skilled manual, low non-manual, semi-skilled or unskilled categories, which suggests that respondents employed in these categories have generally been so employed for the period under consideration.

Downward mobility has occurred only from the professional occupational category and has been into the bourgeois, senior clerical, and clerical occupational categories. Again this is likely to be a result of people who train as teachers subsequently choosing to move to more lucrative occupations. It is apparent that the changes have all been to categories of employment which are likely to be more highly paid (bearing in mind that the bulk of the semi-professional category consists of teachers). It is evident from the above that the distinction between manual and non-manual employment imposes a ceiling on the level of upward mobility from manual occupations, and a floor to the degree of downward mobility from non-manual occupations.

In concluding this section, there is a greater degree of intra- and inter-generational upward mobility in the sample covered than downward mobility. There was generally more inter-generational mobility than intra-generational mobility. The occupational framework in which this occurred was one in which a predominant proportion of the sample were employed in manual occupations, originally and primarily within the unskilled and semi-skilled category. Downward mobility was therefore limited by the already low base at which the largest proportion of the sames were employed. Upward mobility was facilitated by the relatively rapid expansion of the occupational groups nearer to the top of the occupational hierarchy (i.e. skilled manual, clerical and sales, and blue-collar technical).

The finding in Chapter 2, that the proportion of the black labour force employed in the unskilled manual category was declining, is strongly reinforced by the results of the Soweto survey in this respect. However, the proportion of the Soweto sample who remain employed in the unskilled category is far smaller than is reflected by the national figures. Generally, the Soweto sample seem better off in terms of occupations, which will be explained later in this chapter.

The excess supply of unskilled labour and increasing demand for manpower in more skilled occupations have repercussions throughout the occupational structure which has been characterized by upward mobility.

In the inter-generational mobility study, recruitment in categories requiring higher levels of education was primarily from similar categories. More generally, excessive mobility into non-manual and manual occupations were in aggregate only from other non-manual and manual occupations respectively. (See Appendix 4, Table 1b). If the manual and non-manual categories are similarly aggregated into two groups for the intra-generational tables, a similar and more notable result is obtained (See Appendix 4, Table 2b). Again a barrier is apparent between manual and non-manual occupations, which reflects the conventional division of the occupational structure into working class and middle class occupations.

Concern thus far has been with the flow of labour between the different occupational categories. Attention has been paid to the outflow of labour from particular occupations of origin (in an inter- and intragenerational sense) and to the inflow of labour into particular categories supplied from others. Attention will now be turned to the factors influencing this mobility, i.e. those factors which make it more likely for one individual than another to achieve upward mobility.

Table 17: Mobility from First Job to 1981 Occupation: Ratios of Observed Frequencies to Frequencies Expected on the Assumption of Independence

Respondents' Occupation - 1981

First Job	Professional	Bourgeois	Senior Clerical	Clerical	Blue-Collar Technical	Super-visory	Artisan	Skilled Manual	Low Non-Manual	Semi-Skilled	Un-skilled
Professional	13,7	3,3	2,7	1,5	—	—	—	—	0,2	0,5	—
Bourgeois*	—	39,4	—	—	—	—	—	—	—	1,5*	—
Senior Clerical	—	15,8	52,6	—	—	—	—	—	—	—	—
Clerical	—	—	4,7	16,7	—	—	—	—	—	—	—
Blue-Collar Technical	1,1	3,9	—	—	18,0	—	—	—	—	—	—
Supervisory*	—	—	—	—	—	39,4*	—	—	—	1,5*	—
Artisan	—	—	—	—	—	—	—	—	—	—	—
Skilled-Manual	—	—	—	—	—	3,9	—	16,0	0,3	0,2	—
Low Non-Manual	0,3	1,1	—	1,6	0,3	—	—	0,3	4,0	0,3	0,1
Semi-Skilled	0,2	—	—	—	—	1,5	—	0,2	0,4	2,6	0,2
Unskilled	—	—	—	0,2	0,2	0,6	—	0,3	0,5	0,5	2,9

* Denotes categories in which the frequencies were too small for reliability.

3.1.5 The Determinants of Mobility

A labour market in which the labour is not 'perfectly mobile' (i.e. an index of association in all cells of 1) is essentially an imperfect market. There are forces at work apart from wages or the price of labour which affect the occupational structure resulting in its division into segments which are to varying degrees non-competitive.[1]

Attention will now be turned to an investigation and analysis of these determinants of mobility, an understanding of which should help account for the "origin and perpetuation of labour market segmentation."[2]

The tendency to conceive of mobility as a single variable and examine it largely without relating it to other variables has severely restricted the value of some mobility research. "The purpose of scientific enquiry is to establish and explain general relationships between variables and not merely to delineate the population distribution of one variable, regardless of how important this variable must be".[3] To study the determinants of occupational mobility the concept should be divided into its constituent elements by examining how origins influence later achievements, and how several antecedent conditions interact in their effect on achievements.[4]

Two methods will be used to illustrate the process of occupational mobility in this manner. Firstly, regression and path analysis and secondly, multi-variate contingency table analysis.

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(1) Terrington, D.H. "An Examination of the Occupational Wage Structure In Selected Industries Covered by The Wage Board, The Impact of Wage Board Determinations on the Occupational Wage Structure and the Politico. Economic Implications of Changes in the Occupational Wage Structure". UCT Dissertation, 1974, p. 11.

(2) Ibid., p. 16.

(3) Blau, P.T., and Duncan, O.D. op. cit., p. 8.

(4) ibid., p. 402.

Regression is used to quantify the relationship between variables when the value of one variable is affected by changes in the values of other variables. The affected variable is the dependent or predicted variable and the others are the independent or predictor variables. The correlation between two variables can indicate whether an increase in one variable is associated with an increase in the other variables, and how strongly the variables are associated.
The relationship between a dependent variable y and an independent variable x is linear if the expected value of y can be expressed as $\alpha + \beta x$ where α and β are the coefficients of the regression equation. α is called the intercept and β the slope of the regression. A model of multiple linear regression is written as

$$E(y) = \alpha + \beta_1 x_1 + \beta_2 x_2 + \ldots$$

where $x_1, x_2, \ldots$ are the independent variables
and $\beta_1, \beta_2, \ldots$ their regression coefficients.

If however we write y, instead of E(y) then an error term must be added.

i.e. : $y = \alpha + \beta x + \xi$

where ξ represents an error term.

Regression analysis is apt here as it enables one to consider several of the determinants of mobility simultaneously, that is, to examine the influence on occupational success of entire sets of variables. More specifically it considers the basic question of how occupational achievement is affected by criteria ascribed in earlier life, such as socio economic origin, legal status, education, etc.

The purpose of the contingency table analysis is to obtain a description of the relationships between the factors of the table, either by forming a model for the data or by testing and ordering the importance of the interactions between the factors. The method used is complicated and it must be discussed in some detail.

The variables selected for analysis are all cross-classified with one another and the resulting frequencies are entered in a table known as a contingency table. When there are a number of variables under consideration the table is called a multi-way or multivariate contingency table.

In the analysis of the multiway tables, use is made of log-linear models. The term model here refers to a theory about or conceptual framework for the observations. The parameters in the model represent the 'effects' that particular variables or combinations of variables have in determining the values of the observations. Linear models postulate that the expected values of the observations are given by a linear combination of a number of parameters.

Fitting particular log-linear models to a contingency table is equivalent to testing particular hypotheses about the table. Fitting log linear models enables one to obtain estimates of the parameters in the model which facilitates the quantification of the effects of various variables and of interactions between variables.

The saturated log linear model contains all the possible effects. Assuming we have five variables, A,B,C,D, and E in a contingency table, the saturated model can be written as:

$$\begin{aligned}\ln F_{ijklm} = \theta &+ \lambda^{A}_{i} + \lambda^{B}_{j} + \lambda^{C}_{k} + \lambda^{D}_{l} + \lambda^{E}_{m} + \lambda^{AB}_{ij} + \lambda^{AC}_{ik} + \lambda^{AD}_{il} \\ &+ \lambda^{AE}_{im} + \lambda^{BC}_{jk} + \lambda^{BD}_{jl} + \lambda^{BE}_{jm} + \lambda^{CD}_{kl} + \lambda^{CE}_{km} + \lambda^{DE}_{lm} \\ &+ \lambda^{ABC}_{ijk} + \lambda^{ABD}_{ijl} + \lambda^{ABE}_{ijm} + \lambda^{ACD}_{ikl} + \lambda^{ACE}_{ikm} + \lambda^{ADE}_{ilm} \\ &+ \lambda^{BCD}_{jkl} + \lambda^{BCE}_{jkm} + \lambda^{BDE}_{jlm} + \lambda^{CDE}_{klm} + \lambda^{ABCD}_{ijkl} + \lambda^{ABCE}_{ijkm} \\ &+ \lambda^{ABDE}_{ijlm} + \lambda^{ACDE}_{iklm} + \lambda^{BCDE}_{jklm} + \lambda^{ABCDE}_{ijklm}\end{aligned}$$

The saturated model provides a perfect fit to the data since the expected values with this model are simply the observed frequencies. This arises because the number of parameters in the model is equal to the number of cell frequencies.

However, some of the parameters in the saturated model may not be statistically significant and can therefore be omitted while still maintaining an adequate fit to the data.

Assessing the adequacy of a suggested model for the data follows the same principles as those used in hypothesis testing, namely obtaining estimates of the theoretical frequencies to be expected assuming the model is correct and comparing these with the observed values by means of either the chi square (X^2) or likelihood ratio chi square (XL^2) statistic.[1]

Because the test of any effect in a log linear model depends on which other effects are included in the model no single test determines the relative importance of an effect. Brown[2] suggests the use of two tests to screen effects -

1) The test of marginal association

2) The test of partial association.

In the former the hypothesis is that the marginal association of K factors is zero. The test is whether the K factor interaction is zero in the marginal subtable formed by the K factors. The table is summed over the unspecified indices. For example to test the marginal association between variables A and B, the two-way table indexed by A and B is formed and the two-factor

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(1) $X^2 = \Sigma (\text{observed-expected})^2 / \text{expected}$

$XL^2 = 2\Sigma$ observed x log e (observed/expected)
Both have a chi-square distribution when the hypothesis is true. In general the XL^2 is preferable and consequently is the criterion used in most of this text.

(2) Brown, M.B., "Screening effects in multidimensional contingency tables" in Applied Statistics, 25, 1976, pp. 37-46.

interaction tested. In the test of partial association the hypothesis is that the partial association of K factors is zero. The test determines whether a significant difference exists between the fit of two hierarchical models - one is the full model of order K, and the other the model that differs from it in that the specified K-factor interaction is excluded.

The tests of marginal and partial association can be simultaneously used to screen the interactions and determine whether or not they are significant in the model for the data being used.

As the number of variables in a multivariate table increases so does the number of possible models, and a method is required to distinguish between models which are an adequate fit to the data and those which are less adequate. In general the preferred model will be that with fewer parameters.[1]

The reason for using both regression and multivariate contingency table analysis is two-fold. On the one hand there are particular problems associated with each method which are not common to both and thus if the results are in broad agreement one can be more assured of their accuracy. On the other hand the two methods do not render identical information and should therefore be regarded as complementary rather than as substitutes. Furthermore, the introduction of a model into any field is almost always a step forward, even when it is a step not entirely in the right direction. All modelling proceeds by approximation, and any model invites refinement and may call for rectification.[2]

A few of the common criticisms of the two techniques will be mentioned here. A fundamental assumption, not intrinsic to

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(1) Dixon, W.J., and Brown, M.B. (eds.) Biomedical Computer Programs. (BMDP series) University of California Press, 1979, p. 306.

(2) Hope, K., "Vertical Mobility in Britain: A Structured Analysis", in Sociology, Vol. 15, No. 1, Feb. 1981, p.20.

cross-tabulations, is required to perform regression analysis. This is that occupations can be assigned values on an interval scale.[1] This has been criticised on the basis that occupations differ in a number of ways and many of these differences cannot be reduced to variation along a single dimension. Defenders of path analysis counter this by arguing that where concern is essentially with vertical mobility, (the hierarchical occupational scale being based on common conceptions of the status of occupations), the assumption necessary is not an idiosyncratic one.[2] The scale itself is also often criticised as being inherently psychic in that it is constructed (at least partly) from perceptions of the social status or prestige of occupations.[3] This argument is again countered by the proponents of path analysis on the basis that although the procedure may be a simplification of reality, it is nevertheless a justifiable one as to study one aspect of a complex phenomenon is not to deny that other aspects exist.[4] A further criticism is made of the way in which the index scale is constructed. This is based on the fact that educational attainment is a component of each index but also appears in the regression equation used to predict occupational achievement. It is therefore argued that a high correlation between occupation and education is built into the status index. This is again countered by the proponents of path analysis who maintain that because not all persons in an occupation have the same educational attainment, the formula for the status scores does not produce a perfect correlation between the estimated prestige of the individuals and their educational attainment. The status rating will show some

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(1) Duncan, O.D., and Hodge, R.W. "Education and Occupational Mobility. A Regression Analysis". American Journal of Sociology. Volume 70, No. 6, May 1963, p. 630.

(2) Blau, P.T., and Duncan, O.D. op. cit., p. 117.

(3) Hope, K., op. cit., p. 31.

(4) Blau, P.T., and Duncan, O.D., op. cit., p. 117.

correlation between the two variables but the apparent circularity of the procedure is, it is argued, really a realistic reflection of the fact that high prestige occupations do recruit people with superior education, while lower prestige occupations generally recruit people with inferior schooling.[1]

There has been a tendency to see log-linear analysis and multivariate contingency table analysis as a way of escaping the technical imperatives of path analysis.[2] The problem arising with multivariate analysis through cross-tabulations is that even where categories are aggregated (which may itself obscure important information), simultaneous cross tabulations of several factors may yield tables in which many cells are too small for statistical reliability.[3]

Hope concludes that the essential logic of the analysis of contingency table models is no different from the logic of regression analysis with dummy variables.[4] If then we want to study vertical mobility, "... like the patriarch we must dream up a ladder which indicates who has moved up, who has moved down, and how far they have moved".[5] This was implicit in the earlier discussion of inter- and intra-generational mobility.

3.1.5.1 Regression and Path Analysis

In order to rank the occupational categories along a quantitative (interval) scale, the socio-economic indices for all occupations within each category was obtained[6] and a socio-economic index for each category calculated from the weighted average of the particular constituent occupations.

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(1) Ibid., pp. 124-126

(2) Hope, K., op. cit., p. 31.

(3) Blau, P.T., and Duncan, O.D., op. cit., p.116.

(4) Hope, K., op. cit., pp. 20-51.

(5) Ibid., p. 33.

(6) See Reiss, A.J., Occupations and Social Status. The Free Press of Glencoe 1961, pp. 263-275 for a list of socio-economic indices for occupations.

The results of these calculations are illustrated in Table 18 below.

Table 18

Socio-Economic Index for each Occupational Category

Occupational Category	Socio-Economic Index
High Professional	82
Senior Executive [1]	-
Salaried Professional [1]	-
Lower Executive	75
Semi-Professional	73
Private Owners	65
Senior Clerical	58
Clerical/Sales	49
Blue-Collar Technical	46
Supervisory	45
Artisans and Apprentices	44
Skilled Manual	32
Routine Non-Manual	34
Semi-skilled	21
Unskilled	9
Farm	7

The ranking order of the occupational categories hitherto observed is confirmed by the S.E.S. scores with the exception of the skilled manual category which has a slightly lower S.E.S. score than does the routine non-manual category which has been placed one 'rung' below it on the hierarchy.[2]

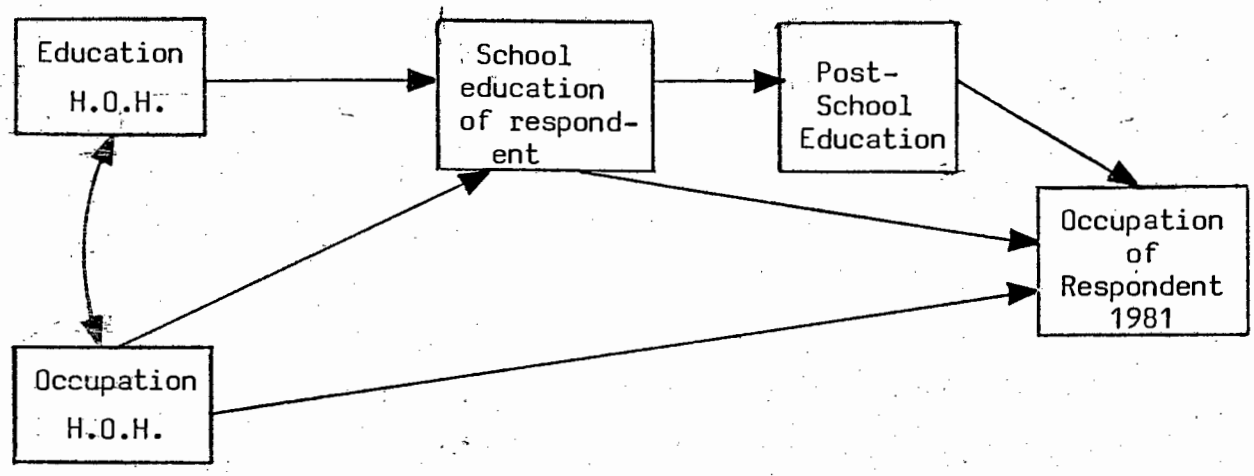
The causal paths which we expect to underlie the statistical associations between variables are illustrated in Figure 2 where

(1) No score has been calculated as no members of the sample were employed in these categories.

(2) Some authors argue that this should be so. See for example Lipset, S.M., and Bendix, R., Social Mobility in Industrial Society. University of California Press, 1959, p. 14.

the variables are ordered by their assumed temporal sequence.

Figure 2



As an initial step in examining the extent and nature of the associations, the correlation coefficients[1] are calculated which indicate whether the association between two variables is positive or negative and how strong the association is. Positive and negative values of the correlation coefficients indicate positive and negative relationships respectively, and the closer the correlation to either plus or minus one, the stronger is the linear relationship, or the more highly correlated the variables. If the variables are independent the correlation coefficient will be zero.[2]

Table 19 is the correlation matrix for the variables under consideration. The simple correlations "measure the gross magnitude of the effects of the antecedent upon the consequent variable"[3]

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(1) These relate naturally occurring changes in one variable, say respondents occupation, to naturally occuring changes in another, say respondents school education. The influence of possible intervening variables is subsumed into the coefficient. The correlation, r, between two variables is

$$r = \frac{\text{cov}(X,Y)}{Sx\ Sy} = \frac{\Sigma(Xj - \bar{X})\ (Yj - \bar{Y})}{[\Sigma(Xj - \bar{X})^2\ \Sigma(Yj - \bar{Y})^2]^{\frac{1}{2}}}$$

(2) See for example Kelejian, H.H., and Oates, W.E. Introduction to Econometrics, Harper and Row, 1974, pp. 27-33.

(3) Blau, O.D., and Duncan, P.T., op. cit., p. 169.

given the assumption as to the direction of causation illustrated in Figure 2.

Table 19

Correlation Matrix

Variable	Variable A Respondents Occupation	B Household Heads Occupation	C Respondents School Education	D Respondents Post-School Education	E Household Heads Education
A	1,0000				
B	0,2933	1,0000			
C	0,5391	0,2604	1,0000		
D	0,6051	0,2238	0,4056	1,0000	
E	0,3416	0,3068	0,4324	0,3027	1,0000

From the above table it can be observed that in terms of the gross influence on the respondent's occupational status, post-school education clearly has the strongest influence, followed by school education, the education of the H.O.H. and finally, the occupation of the H.O.H. The school education of the respondents is influenced by both the level of education and occupation of the H.O.H. The influence of the former appears to be greater from these gross figures. Post-school training is influenced most notably by the level of school education already attained. The occupation and education of the H.O.H. has a weaker influence. This is not surprising as a particular level of school education is often a pre-requisite for further training.

Although gross values may be useful illustrations of the associations, concern here is essentially with the causal relationship between variables. Gross values are therefore not particularly helpful as it is necessary to know for example, how the respondent's education affects the respondent's occupation independent of the prior influence of the H.O.H's occupation or education.

Specifically we wish to see whether the dependent variable and one independent variable are related after netting out the effect of any other independent variables in the model. Consider the model

$$Yi = \beta_1 + \beta_2 X_{2i} + \beta_3 X_{3i} + \xi_i$$

The partial correlation coefficient between Y and X_2 must be defined in such a way that it measures the effect of X_2 on Y which is not accounted for by the other variable in the model. The partial correlation coefficient is thus calculated by eliminating the linear effect of X_3 on Y (as well as the linear effect of X_3 on X_2) and then running the appropriate regression. The steps are as follows:[1]

1) Run the regression of Y on X_3 and obtain fitted values:

$$\hat{Y} = \hat{\alpha}_1 + \hat{\alpha}_2 X_3$$

2) Run the regression of X_2 on X_3 and obtain fitted values:

$$\hat{X}_2 = \hat{\gamma}_1 + \gamma_2 X_3$$

3) Remove the influence of X_3 on both Y and X. Let

$$Y^* = Y - \hat{Y} \qquad X^*_2 = X_2 - \hat{X}_2$$

4) The partial correlation between X_2 and Y is then the simple correlation between Y^* and X^*_2.

That the regression of Y^* on X^*_2 gives the desired partial correlation coefficient is shown by the fact that Y^* and X^*_2 are both uncorrelated with X_3 by construction (Regression residuals are uncorrelated with explanatory variables)[2]. The regression of Y^* on X^*_2 thus relates the part of Y which is uncorrelated with X_3 to the part of X_2 which is uncorrelated with X_3.

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(1) Pindyck, R.S., and Rubinfeld, D.L., Econometric Models and Economic Forecasts, McGraw-Hill Kogakusha Ltd., 1976, p.69.

(2) ibid., Ch. 2.

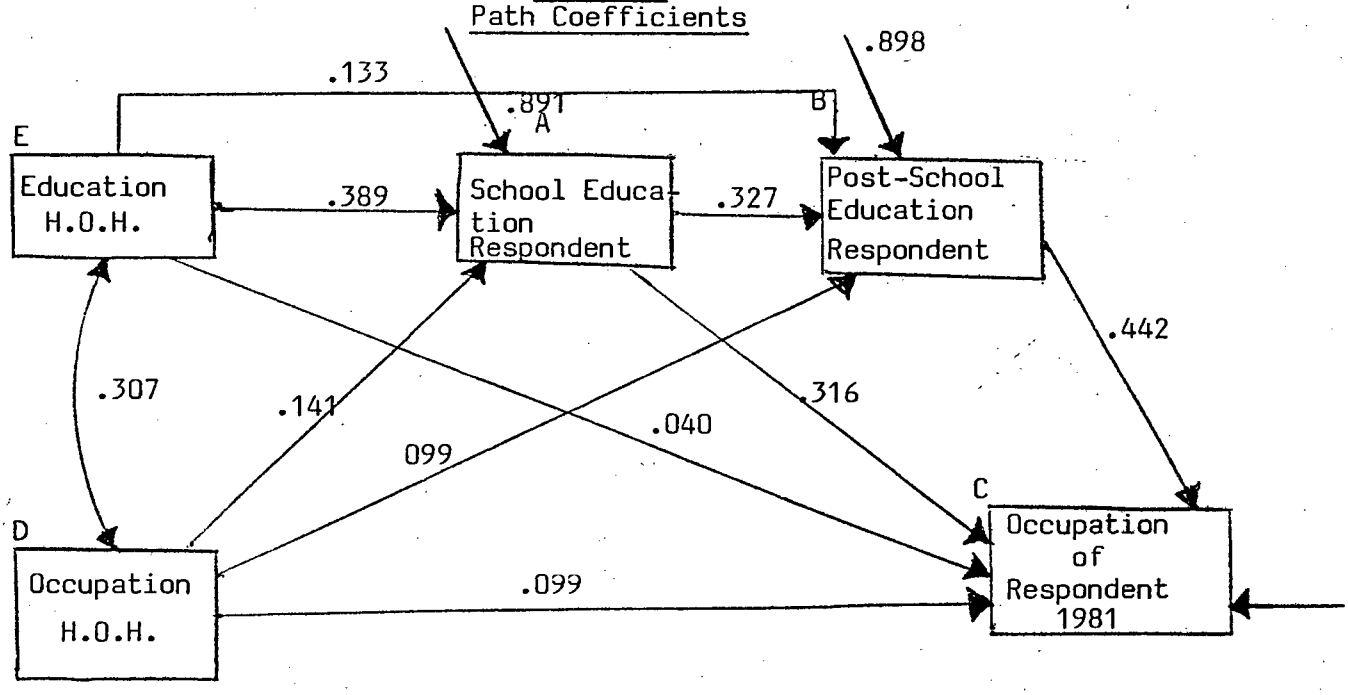
The partial correlation of Y and X_2 (controlling for X_3), is denoted by $r_{yx_2 \cdot x_3}$

$$r_{yx_2 \cdot x_3} = \frac{r_{yx_2} - r_{yx_3} r_{x_2x_3}}{\sqrt{1-r^2_{x_2x_3}} \sqrt{1-r^2_{yx_3}}}$$

Partial correlations range from -1 to +1. A zero partial correlation between Y & X_2 indicates that there is no linear relationship between the two after the linear effect of X_3 on each has been accounted for.

In the multiple regression models which are analysed in this chapter, partial correlation coefficients are used to determine the relative importance of different variables in the models. In order to trace the relationship between the variables in the models (i.e. the determinants of occupational achievement), use is made of path models. Figure 2 is redrawn and values are given to the paths of influence.

Figure 3
Path Coefficients



The coefficients are calculated from a series of regression equations and are standard regression coefficients (i.e. range from -1 to +1). The following regression equations were calculated.

1) r_{ADE}
2) r_{BADE}
3) r_{CBADE}
4) r_{ED}

It should be noted in the case of E and D, that although it is probable that the influence runs from E to D it must be assumed (as with the respondents) that the correlation is not simple as common causes lie behind both which have not been measured. Thus the bidirectional arrow illustrates all sources of correlation between E and D.

For the causal model to be complete in the sense that all determinants are accounted for, all factors known or presumed to operate in the model must be represented in the diagram in accordance with their causal role. Formal 'completeness' is achieved by representing unmeasured causes as a residual factor assumed to be uncorrelated with the remaining determinants of the variable under consideration.[1] The residual is calculated from the coefficient of determination; if $R^2A(DE)$ is the squared multiple correlation of A on the two independent variables, then the residual for A is

$$\sqrt{1 - R^2A(DE)}$$

The residuals are represented in the path diagram by lines with no source indicated carrying arrows to each of the effect variables. The residual includes causes not identified or measured, errors of measurement, and departures of the true relationships from additivity and linearity.[2]

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(1) Blau, P.T., and Duncan, O.D., ibid, p. 171.
(1) ibid, p. 171.

It should be emphasised that no inferences with respect to causality can be made from the coefficients which merely describe the statistical association between variables. Information pertaining to causality is therefore external with respect to the data being based on assumptions as to the temporal sequence of the variables.[1]

The problem arises as to how to interpret the coefficients. Because standardized regression coefficients have been used each coefficient can be compared to the maximum possible value of 1,00 or of -1,00 in the case of an inverse relationship.

From Figure 3 it is apparent that post-school education is the most important direct single determinant of the respondent's occupational status in 1981. Although the direct path coefficient is smaller for school education, this variable has an additional influence on post-school education and thus may be in aggregate a more important determinant of occupational status.[2] The occupation of the H.O.H. has a stronger influence on the respondents occupation and post-school education than does the education of the H.O.H. The H.O.H's education does however have a stronger influence on the respondent's school education than does the H.O.H's occupation.

It can be observed from the above that occupational roles are allocated primarly on the basis of educational attainment. The level of educational attainment in turn depends to an important extent on the education and occupation of the H.O.H.[3] These

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(1) Blau, P.T., and Duncan, O.D., ibid. p. 171.

(2) In Chapter 1 it was noted that in Glass' study it was found that post-school education generally reinforces rather than determines a particular relationship. School education itself had the most decisive influence on the distance ascended in the occupational scale. The importance of education in determining mobility was also noted by Carlsson and Duncan and Hodge.

(3) This finding was common to all those discussed in Chapter 1.

background factors also have a direct influence on the respondent's occupation but it would be true to say that differential educational attainment is the primary mechanism through which background influences occupational achievement[1] and that a relatively high socio-economic background enhances life chances (in terms of education and occupation) among blacks as it does in the wider South African society[2] given the influence of social background on the respondent's education, the educational system contributes to the transmission of occupational status from generation to generation. This relationship is also apparent from studies in Europe, Britain, Zimbabwe and America.[3] However the way in which education enhances the occupational opportunity of the individual is probably different for Blacks in the South African context, where it is likely that it is the amount of education per se, and not the quality or content of such education, that is important in so far as it affects occupational opportunities. This is due to the fact that the standard of Black education is still fairly homogenous and it is not yet significantly differentiated on a class basis.

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(1) This was also found to be so by Glass and Duncan and Hodge. However Carlsson's study in Sweden found to the contrary that schooling is not the decisive factor in most cases where people have been upwardly mobile, nor does it negate the influence of parental occupational status on that of the son. (See Chapter 1).

(2) This conclusion is supported by the findings of earlier studies. Mia Brandel-Syrier for example, found that 35% of the fathers of the group she distinguished as 'elite', were professionals or semi-professionals. Brandel-Syrier, M., Reeftown Elite. Routledge and Kegan Paul, 1971. Leo Kupers' study showed that education was the original basis for the differentiation of what he describes as the African bourgeoisie, and that it remained an important factor throughout the individual's life. "Education fostered occupational diversity and the opportunity to escape from the common fate of the peasant or labourer into the highly prized positions..." Kuper, L., An African Bourgeoisie. Race, Class, and Politics in South Africa. Yale Univ.Press, 1965, pp. 73-74.

(3) See Glass, D.V., op. cit., p. 291.
Duncan, O.D., and Hodge, R.W., op. cit., p. 635.
Duncan, O.D., and Featherman, D.L., Socioeconomic Background and Achievement. Seminar Press, 1972, p.4.
Murphree, M. (ed.) Education, Race and Employment in Rhodesia. The Association of Round Tables in Central Africa, 1975, p.18.
Bowles, S., "Unequal Education and the Reproduction of the Social Division of Labour" in Coxon, A.P.M., and Jones, C.L. (eds) Social Mobility, Penguin, 1975, pp. 258-280.

Earlier in this paper it was shown that there is a high correlation between the respondent's occupation in 1981 and his or her first occupation. Inclusion of the respondent's first job in the model should therefore improve the completeness thereof.

Table 20

Correlation Matrix

Variable	Variable					
	Respondents Occupation 1	H.O.H. Occupation 2	School Education 3	Post-School Education 4	Respondents First Occupation 5	H.O.H. Education 6
1	1,0000					
2	0,3025	1,0000				
3	0,5875	0,2795	1,0000			
4	0,6021	0,2301	0,4022	1,0000		
5	0,8856	0,2931	0,5481	0,6136	1,0000	
6	0,3382	0,3116	0,4339	0,2997	0,3317	1,0000

From the above Table it is apparent that school education, and post-school education continue to have an important gross influence on the respondent's occupation in 1981, but that the influence of the respondent's first job is notably more significant. However the educational factors do in turn have a substantial gross influence in determining the status of the respondent's first job (again given the assumptions as to the direction of causation). A path model can again be drawn to illustrate causality and 'disaggregate' the influence between variables.

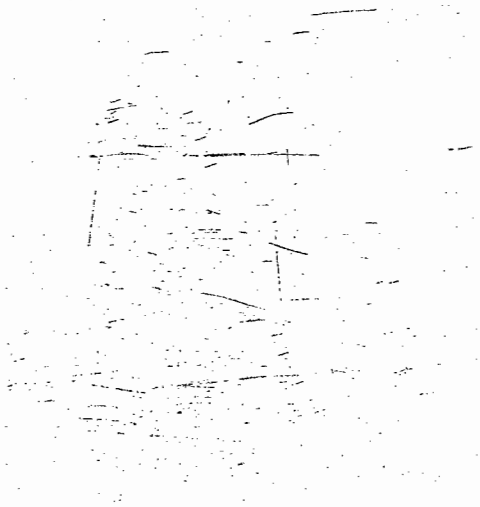
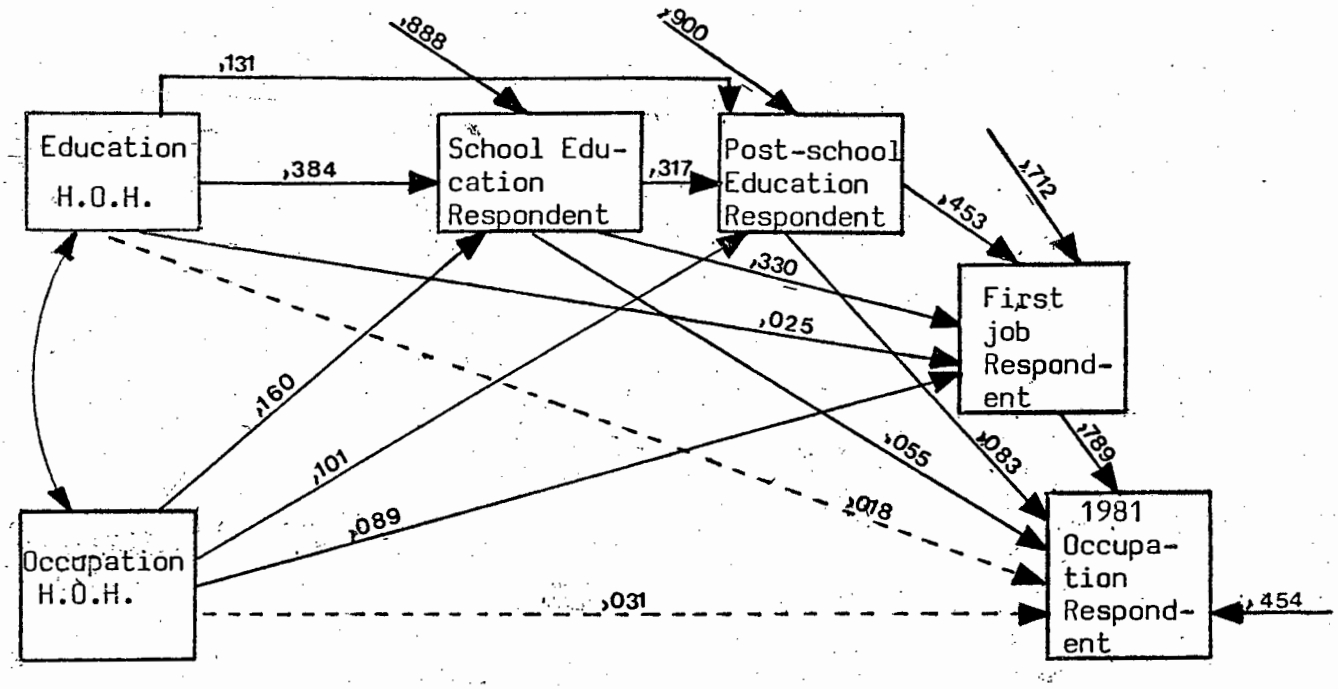


Figure 4

Path Coefficients



In Figure 4, intergenerational and intragenerational mobility are investigated simultaneously as the influence of social origin (H.O.H. occupation and education) and career origin (first job) on occupational achievement are not independent.

As in the previous model, social origins exert some influence on an individual's chances of occupational achievement (less marked in this model), but the individual's education and earlier occupational experience play a more important role as determinants of occupational success. This can be seen from both the path coefficients and the correlation matrices. The path model illustrates in addition, the manner in which the influence of social origins is mediated by intervening variables. Thus for example it is apparent that the influence of the H.O.H's education on occupational achievement is almost entirely indirect being mediated through school and post-school education of the respondent.[1] It does have a small direct influence on the

(1) This concurs with the findings of Duncan and Hodge outlined in Chapter 1.

respondent's first job. With respect to the H.O.H's occupation, it can be seen that this variable has a significant influence on the respondent's school education, post-school education, and first job. It does not seem to influence the respondent's occupation in 1981 when differences in education and first job are statistically controlled. Social origins do not therefore seem to have a significant continuing impact on occupations in Figure 4 and most of their influence is exerted during the earlier stages of the respondent's career. This is contrary to the literature from Britain, America and Europe which consistently shows a continuing positive relationship between social origins and occupations.[1] This result is supported by other studies in Africa which similarly do not show as enduring a correlation between social origins and occupation, although they recognise that economic factors do intervene as those from lower socio-economic origins are less able to finance education or abstain from wage employment.[2] That this is so in Soweto is clearly evident from the earlier finding that 69 per cent of the respondents who left school before matriculating did so for financial reasons. Murphree et al found in their study in Rhodesia that the education and occupation of parents seems to have a positive effect on the chances of their children continuing in school and thus on their subsequent employment prospects. Children of high status parents were found to have greater opportunities to pursue their careers than do children of low status parents.[3] It is however to be expected in the African context (as is shown in this particular model) that once the individual has entered the labour force social origin will have only a marginal effect on occupational status and will operate primarily through education and first occupation which

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(1) Blau, P.T., and Duncan, O.D., ibid., p.170.
Carlsson, G., op. cit., pp. 132-134.
Glass, D.V., op. cit., pp. 107, 129, 130.

(2) Clignet, R., and Foster, D. The Fortunate Few: A Study of Secondary Schools and Students in the Ivory Coast. Evanston, North Western University Press, 1966.

(3) Murphree, M.W. (ed) op. cit., p. 154.

continue to influence the individual's career once it is underway.[1]

If the sex of the H.O.H. is included in the model it is found to have no significant effect on any of the variables under consideration. It can be calculated that approximately two-thirds of the variance in occupational achievement in Figure 4 is measured and accounted for by the variables in the model. The residuals for preceding variables are significantly higher. These residuals should not however be regarded as a measure of adequacy of the explanation. The belief that "... a high multiple correlation is presumptive evidence that an explanation is correct or nearly so, whereas a low percentage of determination means that a causal interpretation is almost certainly wrong"[2] is entirely misconceived. The size of the residual is not particularly important, what is important is that the unobserved factors it represents are uncorrelated with the measured antecedent variables.[3]

In conclusion, it appears that occupational achievement amongst the respondents is powerfully influenced by prior educational attainment which is in turn influenced by the socio-economic background of the respondents. Socio-economic origin also directly influences the occupation of the respondent but most of its influence is mediated through the respondent's education. Once the respondent's career is underway, subsequent employment is most powerfully influenced by the first job.

Although the gross correlations between the variables can be disaggregated using regression analysis and path models which, with the necessary assumptions, enable a causal analysis of occupational mobility, these techniques do not allow for any analysis

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(1) This view is supported by Blau, P.T., and Duncan, O.D. op cit., p. 418. It is also supported by the results of Nyquist's study in Grahamstown which suggested that the family backgrounds of the group defined as 'elite' were diverse and that entry into this stratum was gained by education and/or occupation of a higher standard. Nyquist, T., op cit., p.9.

(2) Blau, P.T., and Duncan, O.D., op. cit., p. 175.

(3) ibid., p. 175.

of the dynamics within the variables themselves.

In order to get a more detailed account of the ways in which the variables are correlated, they are disaggregated into their composite categories and multivariate contingency tables are constructed to which log-linear models are fitted. The parameters of the particular models facilitate the quantification of the effects of the different variables and the interactions between variables.

The fitting of a log-linear model to complex multivariate contingency tables involves considerable computation since expected values may need to be estimated using the iterative algorithm.[1] Consequently computer programmes are generally necessary for the analysis of such tables.[2]

3.1.5.2 Multivariate Contingency Table Analysis

The variables selected for analysis are sex, the respondent's school education, the respondent's occupation, the H.O.H's occupation, and the H.O.H's education. Multiway frequency tables are constructed in which the variables are cross tabulated with each other and the frequency with which particular combinations of variables occur entered in each cell of the table.

Before fitting the log-linear model, effects which are not significant and which can therefore be omitted without sacrificing the goodness of fit of the model, must be excluded.

From Table 21, the test that all k- factor interactions are zero it can be observed that only the first and second order interactions are significant. The third, fourth and fifth order

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(1) Everitt, B.S., The Analysis of Contingency Tables. Chapman and Hall, 1977, pp. 91-94.

(2) Biomedical Computer Program P3F was used for this analysis. The program analyses data in a multidimensional table by fitting a hierarchical log-linear model to the cell frequencies, i.e. the logarithm of the expected cell frequency is written as an additive function of main effects and interactions in a manner similar to the usual analysis of variance model.

interactions are not statistically significant using the Pearson chi-square and likelihood ratio chi-square criteria. This observation is supported in Table 22 by the results of the tests of partial and marginal association of the factors. These tests also show that certain second order effects are not significant and can therefore be excluded from the model. The interactions between sex and school education (AB), sex and the H.O.H's occupation (AD), sex and the H.O.H's education (AE), school education and the H.O.H's occupation (BD), and the respondent's occupation and H.O.H's education (CE) are therefore omitted from the model as are all third, fourth, and fifth order interactions.[1]

The following model was fit: AC, BC, BE, CD, DE.[2]

i.e. $$\ln F_{ijklm} = \theta + \lambda^{A}_{i} + \lambda^{B}_{j} \quad \lambda^{C}_{k} \quad \lambda^{D}_{l} \quad \lambda^{E}_{m} + \lambda^{AC}_{ik} \quad \lambda^{BC}_{jk} \quad \lambda^{BE}_{jm} \quad \lambda^{CD}_{kl} \quad \lambda^{DE}_{lm}$$

To check that the interactions omitted do not significantly affect the goodness of fit, the model can be compared to the saturated model. It is found to be satisfactory and is therefore the preferred model as it has far fewer parameters.

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(1) In fact the first order interactions are also not analysed although they are included in the model, as it is the relationship between the actual variables which are of interest here not the significance of the variables themselves.

(2) Where A represents sex
B school education
C respondent's occupation
D H.O.H. occupation
E H.O.H. education.

Table 21

The results of fitting all K-factor marginals.
This is a simultaneous test that all K+1 and higher factor interations are zero

K-FACTOR	D.F.	LR CHISQ	PROB.	PEARSON CHISQ	PROB.	ITERATIONS
0(Mean)	449	1506,51	,0000	2903,93	,0000	
1	436	831,08	,0000	1340,68	,0000	2
2	372	194,41	1,0000	199,00	1,0000	4
3	224	89,31	1,0000	88,59	1,0000	3
4	64	21,68	1,0000	22,39	1,0000	2

A simultaneous test that all K-factor interactions are zero.
The entries are differences in the above Table.

K-FACTOR	D.F.	LR CHISQ	PROB.	PEARSON CHISQ	PROB.
1	13	675,42	,0000	1563,24	,0000
2	64	636,68	,0000	1141,68	,0000
3	148	105,10	,9970	110,42	,9909
4	160	67,63	1,0000	66,19	1,0000
5	64	21,68	1,0000	22,39	1,0000

Table 22

A Test of Partial Association of the Factors					A Test of Marginal Association of the Factors		
It is calculated as the difference between the full K-th order model and that which excludes only the specified effect. K is the number of factors in the effect.					The table is summed over the unspecified indices and then the effect is tested to be zero.		
EFFECT	D.F.	LR CHISQ	PROB.	ITERATIONS	LR CHISQ	PROB.	ITERATIONS
A	1	5,54	,0185				
B	2	154,96	,0000				
C	4	160,14	,0000				
D	4	295,30	,0000				
E	2	59,48	,0000				
AB	2	3,61	,1649	4	3,73	,1550	2
AC	4	61,78	,0000	4	61,29	,0000	2
AD	4	1,48	,8293	4	2,07	,7238	2
AE	2	,64	,7265	4	,31	,8572	2
BC	8	155,10	,0000	4	190,62	,0000	2
BD	8	5,59	,6931	4	39,36	,0000	2
BE	4	48,26	,0000	4	89,21	,0000	2
CD	16	41,88	,0004	4	78,86	,0000	2
CE	8	8,70	,3680	4	51,36	,0000	2
DE	8	171,04	,0000	4	212,34	,0000	2
ABC	8	9,62	,2926	3	13,50	,0958	3
ABD	8	,69	,9995	3	1,35	,9949	2
ABE	4	1,43	,8395	3	2,24	,6922	3
ACD	16	10,18	,8568	3	14,53	,5590	3
ACE	8	4,65	,7946	3	10,79	,2139	3
ADE	8	4,79	,7798	3	4,84	,7744	3
BCD	32	22,50	,8934	3	25,93	,7665	3
BCE	16	8,48	,9333	3	11,36	,7857	3
BDE	16	13,79	,6140	3	12,76	,6900	3
CDE	32	17,95	,9784	3	18,01	,9779	4
ABCD	32	11,03	,9998	2	12,97	,9989	2
ABCE	16	5,66	,9914	2	7,51	,9622	2
ABDE	16	5,24	,9945	2	6,39	,9834	2
ACDE	32	8,80	1,0000	2	10,16	,9999	3
BCDE	64	33,41	,9994	2	35,39	,9986	2
ABCDE	64	21,68	1,0000	2			

RESULTS

In order to simplify the analysis the existing occupational categories were aggregated into fewer categories. The high professional, executives in large firms, salaried professional, lower executive, semi-professional, private owners, and senior, clerical categories were aggregated into a single 'high non-manual' category. The clerical and sales, blue-collar technical, and routine non-manual categories, were aggregated into a single 'non-manual' category. The supervisory and inspectional, artisan and apprentice, and other skilled manual categories were aggregated into a 'skilled' category. The semi-skilled and unskilled categories remained unchanged for the respondents, but the unskilled and farm labour categories for the H.O.H's occupations were aggregated.

The educational categories were similarly aggregated. The 'none' and 'Sub A - Std 2' categories were joined to form a lower-primary category. 'Std 3 - 5' and 'Std 6 - 7' were aggregated to form an 'intermediate' educational category, and 'Std 8 - 9' and 'Std 10' aggregated into a 'secondary' educational category.

From the estimates of the log-linear parameters (lambda's) in Table 23 it can be observed that 'the association between the respondent's sex and occupation is negative for males in the high non-manual category of employment and positive for females. When the parameters are divided by their standard errors the correlation between sex and employment in this category is not statistically significant. The sign of the interation is probably due to the large number of teachers classified in this category of whom most are women. The interaction is again negative between employment in lower non-manual influenced by the large number of women nurses falling into this category. The estimates of the log-linear parameters divided by the standard error again shows that the interaction is not significant and the null hypothesis cannot be rejected. The interaction between men and their employment in the skilled labour category is relatively high and positive and is negative for women.

This result is not surprising as skilled manual occupations are generally performed by men. The association is positive for men in the semi-skilled category and negative for women. Conversely it is high and negative for men and employment in the unskilled category and high and positive for women due to the large number of women domestic workers who are classified in this employment category. These results generally concur with those found for the national sample in the first section of this study.

Table 23

Estimates of the Log-Linear Parameters

Occupation	Sex	
	Male	Female
High non-manual	- ,002	,002
Non-manual	- ,129	,129
Skilled manual	,377	- ,377
Semi-skilled manual	,190	- ,190
Unskilled	- ,436	,436

Table 24 illustrates the relationship between school education and the occupation of the respondents in 1981. It shows that there is a positive and relatively highly significant association between senior levels of schooling (Std 8 - Std 10) and employment in non-manual occupations[1] (found to be those in which there was the greatest degree of occupational inheritance).[2]

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(1) For a statistical presentation of the educational profiles of the workforce employed in professional, semi-professional, technical, managerial, executive and administrative occupations see the report of the National Manpower Commission into High-level Manpower in South Africa, Department of Manpower Utilisation, p.23.

(2) Nyquist found that almost 75 per cent of the upper stratum group he studied had at least eight years of education, while over 50 per cent had at least 11 years of education. This contrasts with his sample generally, where less than 25 per cent had achieved eight years of education. Nyquist, T., op.cit., p. 12.

The interactions between education and employment in the skilled manual category are not statistically significant.

Employment in the semi-skilled category is most highly correlated with an intermediate level of education (Std 3 - Std 7). It is highly but negatively correlated with respondents with a secondary level of education. The interaction with respondents with a lower primary level of education is not statistically significant. There is a strong negative association between higher levels of education (Std 8 - Std 10) and employment in the unskilled category. The interaction becomes positive at intermediate levels of education and remains so but decreases slightly for lower primary education. These results are supported by the findings of other studies conducted amongst Blacks in South Africa.[1]

Table 24

Estimates of the Log-Linear Parameters

Occupation	School Education		
	Lower Primary	Intermediate	Secondary
High Non-Manual	,123	- ,690	,567
Non-Manual	- ,584	- ,078	,662
Skilled Manual	,084	- ,094	,010
Semi-skilled Manual	,033	,419	- ,452
Unskilled	,345	,442	- ,787

Further insight into the important mediating influence of education on the respondent's occupation can be obtained from calculations based on the actual frequencies in the cells of the multiway frequency table. For example, where a male respondent from a home in which the head is unskilled and has only a lower primary level of education, has himself only a lower primary level of

(1) See for example: Nyquist, T., op. cit., p. 12.
Brandel-Syrier, M., op. cit.
Kuper, L., op. cit., pp. 73-74.

education, then he has an 84 per cent chance of being employed in the unskilled or semi-skilled category, (i.e. only a 16 per cent chance of rising above this level. If a respondent with this background achieves an intermediate level of education, he has a 20 per cent chance of rising above this level. Where a respondent in these circumstances achieves a secondary education, he has a 77 per cent chance of rising above the unskilled, or semi-skilled occupational categories.[1] Similar calculations can be calculated with innumerable combinations of variables, but this is not undertaken here for the sake of brevity. The importance of education is nevertheless beyond doubt.

Table 25 illustrates that the education of the H.O.H. and respondents are closely correlated. Where the H.O.H. had a lower primary level of education (none - Std 2), the association is highest and positive where the respondent has the same level of education, and is high but negative with respondents with a secondary level of education. The interaction is not significant with respondents with an intermediate level of education. Thus where the H.O.H. has only a lower primary education it is highly unlikely that the respondent will achieve any better than an intermediate level of education, and in all probability will only attain a lower primary level. Where the H.O.H. has achieved an intermediate level of education the interaction with respondent's education is fairly high and negative where the respondent has only a lower primary level and is high and positive where the respondent has attained a similar intermediate level of education. The interaction is not significant with respondents with a secondary level of education. The relationship is however positive which may be indicative of the tendency for respondents to achieve a higher level of education than did the H.O.H's generation.

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(1) It was quoted in Chapter 1 that in Carlsson's study about 66 per cent of the sons of working class fathers who had secondary and/or tertiary education were upwardly mobile compared to about 33 per cent amongst those with elementary education only. He did however not control for differences in parental education and these results are not directly comparable.

Where the H.O.H. has a secondary level of education (as here defined), the interaction is high and positive with respondents with a similar level of education, high and negative with respondents with an intermediate level of education, and positive for respondents with a lower primary level of education (again as defined here). The latter result was however not significant. In combination with the earlier observations, with respect to the associations between respondent's occupation and education, these interactions help to explain the fact that occupational inheritance was highest in occupations requiring a higher level of education and that recruitment into non-manual occupations was largely from other non-manual occupations.

Table 25

Estimates of the Log-Linear Parameters

Education H.O.H.	School Education		
	Lower Primary	Intermediate	Secondary
Lower Primary	,332	,098	-,430
Intermediate	-,353	,335	,017
Secondary	,021	-,433	,413

A clear pattern emerges for the association between the occupations of the respondents and those of the H.O.H's. Table 26 shows that in all cases, the associations are highest in the cells lying on the diagonal of the Table, ie. where the respondent and H.O.H. are employed in the same occupational category. This is not surprising given the high incidence of occupational inheritance. Where the H.O.H. was employed in the high non-manual category, the association is high and positive with respondents in the same category and negative with those employed in all the other categories. There is a tendency for the magnitudes of the negative interactions to become greater as they move further away which suggests that the association becomes increasingly negative as the distance between occupations increases. Where the H.O.H. is or was employed in the non-manual category, the association is again highest with respondents employed in the same category,

negative with those employed in the high-non-manual and unskilled category and positive with those in the skilled and semi-skilled category. Again there is a tendency for the association to decrease as the 'distance' between the occupations increases. A problem arises in interpreting the data as the lambda values are not significant when divided by their standard errors. The pattern or trend revealed is nevertheless informative. There is a negative association between H.O.H's employed in the skilled manual category and respondents employed in the high non-manual, non-manual and semi-skilled category. The association is small but positive with respondents in the unskilled category. The values are again not statistically significant. There is also no clear trend apparent where the H.O.H. is employed in the skilled manual category. There is a positive association between H.O.Hs employed in the unskilled category and respondents in the semi-skilled and unskilled category. The interaction is negative with respondents employed in all the other categories. Although it was found in Section 3.1.3.1 that the unskilled category was an important source of recruitment for several other categories this was due to the extremely large relative and absolute size of this category of origin and in proportionate terms, relatively few respondents born into this category achieved mobility above the semi-skilled level. It is thus apparent that where the H.O.H. was or is unskilled, it is unlikely that the respondent will rise above the semi-skilled manual category of employment. It is also apparent that the respondent's chances of rising above this level are considerably enhanced by intermediate, and particularly by secondary education.

Table 26

Estimates of the Log-Linear Parameters

H.O.H. Occupation	Respondent's Occupation				
	High Non-Manual	Non-Manual	Skilled	Semi-Skilled	Un-skilled
High Non-manual	,687	-,060	-,011	-,364	-,251
Non-Manual	-,135	,285	,211	,003	-,364
Skilled	-,126	-,225	,343	-,086	,093
Semi-skilled	-,221	,012	-,101	,355	-,045
Unskilled	-,205	-,012	-,442	,092	,567

Analysis is also possible 'down the columns instead of along the rows', so for example it can be observed that where the respondent is employed in the high non-manual category, the association is positive only with H.O.Hs in the same category and becomes increasingly negative as the 'distance' between the occupations increases.

Finally, the association between the education and occupation of the H.O.Hs is disaggregated and analysed. (See Table 27). Where the H.O.H. has a lower primary level of education (none - Std 2), the interaction is positive only with the unskilled employment category and is highly significant. The association is positive between the intermediate level of education (Std 3-7) and employment in the non-manual, semi-skilled and unskilled employment categories. It is highest in the semi-skilled category. The interaction is high but negative in the high non-manual category and is not significant with respondents in the skilled and non-manual employment categories. Where the H.O.H. has achieved a secondary level of education (Std 8-10) the interaction is high and positive with the high non-manual employment category decreasing steadily and becoming negative in the semi-skilled and unskilled category. The negative correlation is very high in the latter category. A clear relationship thus emerges with respect to the relationship between education and employment of the H.O.Hs. Lower levels of education are more highly correlated with employment in categories lower down on the occupational hierarchy, while higher levels of education are positively correlated with employment in occupations higher up the hierarchy.

Table 27

Estimates of the Log-Linear Parameters

Education H.O.H.	Occupation Head of Household				
	High Non-Manual	Non-Manual	Skilled	Semi-Skilled	Un-Skilled
Low Primary	-,240	-,350	-,160	-,131	,880
Intermediate	-,569	,034	-,014	,421	,127
Secondary	,809	,316	,173	-,291	-1,007

From the above discussion it is evident that some of the factors associated with class formation are clearly evident in the black community studied. There is a tendency towards 'selective recruitment' in that respondents who come from homes in which the head was relatively well educated and/or employed in a higher status occupation, were themselves more likely to receive a relatively good education and be employed in more skilled jobs. Even where differences in education were controlled it was evident that respondents with 'favourable' social origins were employed in occupations higher on the occupational ladder. These results are supported by Kuper's findings which showed that 25 per cent of the fathers of the sample population of teachers, nurses and traders, were themselves professional or related workers compared to less than 1 per cent of African men gainfully employed in the Durban area at the time of the study.[1]

The emergence of a group of blacks with attributes normally associated with the 'middle class' is apparent from the above. The application of terms such as 'middle class', 'bourgeois', or 'petty bourgeois' to blacks in South Africa is problematic as they share a common destiny in several respects. Black employment is basically insecure and poorly paid. Kuper argues that neither education nor wealth emancipates the Africans from their indelible racial status. Lack of property combines with political subordination "... to fix the seal of hereditary inequality"[2] The limitations imposed on black achievement have however not prevented them from drawing distinctions among themselves. At the more specific level of life chances the respondents in this survey show many of the characteristics conventionally associated with an economic and social class.[3]

The amount of education received by respondents is clearly influenced by their socio-economic background. Education is in

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(1) Kuper, L. op. cit., pp. 97-98, p.7.
See also Nyquist, T., op. cit., p.13.

(2) Kuper, L. op. cit., p.75.

(3) See also Brandel-Syrier, M., op. cit., p.61.

turn clearly the most important criterion for determining eligibility to middle-class occupations and as such is one of the primary conditions for closure in such occupations.

3.1.6 Unemployment

The emphasis thus far has been on the changes in, and determinants of employment in particular occupational categories. Attention will now briefly be turned to the characteristics of the unemployed and to some of the factors associated with unemployment.

The log-linear model is again employed here. From the test that all k- factor interactions are zero it can be observed that only the first and second order interactions are statistically significant.

Table 28

The results of fitting all K-factor marginals.
This is a simultaneous test that all K+1 and higher factor interactions are zero

K-FACTOR	D.F.	LR CHISQ	PROB.	PEARSON CHISQ	PROB.	ITERATIONS
0(Mean)	2159	1897,33	1,0000	3975,87	,0000	
1	2143	1071,11	1,0000	1449,22	1,0000	2
2	2041	551,64	1,0000	606,94	1,0000	4
3	1705	325,50	1,0000	344,37	1,0000	3
4	1084	147,87	1,0000	146,92	1,0000	2
5	435	41,11	1,0000	41,19	1,0000	2
6	80	5,68	1,0000	5,71	1,0000	2

A simultaneous test that all K-factor interactions are zero.
The entries are differences in the above table.

K-FACTOR	D.F.	LR CHISQ	PROB.	PEARSON CHISQ	PROB.
1	16	826,25	,0000	2526,65	,0000
2	102	519,46	,0000	842,28	,0000
3	336	226,14	1,0000	262,58	,9988
4	621	177,53	1,0000	197,45	1,0000
5	348	106,77	1,0000	105,73	1,0000
6	356	35,42	1,0000	35,49	1,0000
7	80	5,68	1,0000	5,71	1,0000

From the test of partial and marginal association of the factors, those variables which are significantly correlated with unemployment are selected and the model constructed.

The model is:-

$$\ln F_{ijklmn} = \theta + \lambda^{A}_{i} + \lambda^{B}_{j} + \lambda^{C}_{k} + \lambda^{D}_{l} + \lambda^{E}_{n} + \lambda^{F}_{n} + \lambda^{AC}_{ik} + \lambda^{BC}_{jk} + \lambda^{CD}_{kl} + \lambda^{CE}_{km} + \lambda^{CF}_{kn}$$

Where (A) is age, (B) sex, (C) employment status, (D) school education, (E) H.O.H. occupation, (F) H.O.H. sex, and (G) H.O.H. education.

Table 29

A test of partial association of the Factors.
It is calculated as the differences between the full K-th order model and that which excludes only the specified effect. K is the number of factors in the effect.

A test of marginal association of the factors.
The table is summed over the unspecified indices and then the effect is tested to be zero.

EFFECT	D.F.	LR CHISQ.	PROB.	ITERATIONS	LR CHISQ	PROB	ITERATIONS
A	5	173,83	,0000				
B	1	13,44	,0002				
C	1	97,40	,0000				
D	2	105,05	,0000				
E	4	216,76	,0000				
F	1	170,29	,0000				
G	2	49,48	,0000				
AB	5	8,87	,1145	4	9,20	,1013	2
AC	5	33,02	,0000	4	41,07	,0000	2
AD	10	55,80	,0000	4	54,58	,0000	2
AE	20	26,51	,1495	4	39,02	,0066	2
AF	5	18,08	,0028	4	27,94	,0000	2
AG	10	4,49	,9224	4	10,22	,4218	2
BC	1	4,01	,0454	4	3,73	,0534	2
BD	2	3,39	,1833	4	4,48	,1067	2
BE	4	2,69	,6106	4	3,16	,5309	2
BF	1	,32	,5699	4	,30	,5826	2
BG	2	,76	,6843	4	1,62	,4448	2
CD	2	11,42	,0033	4	13,85	,0010	2
CE	4	6,74	,1506	4	11,67	,0200	2
CF	1	6,82	,0090	4	13,26	,0003	2
CG	2	,08	,9607	4	,92	,6298	2
DE	8	21,01	,0071	4	39,83	,0000	2
DF	2	11,57	,0031	4	14,86	,0006	2
DG	4	45,91	,0000	3	60,66	,0000	2
EF	4	11,45	,0220	4	18,55	,0010	2
EG	8	155,71	,0000	3	178,39	,0000	2
FG	2	6,07	,0480	4	8,08	,0176	2

Results

When the log linear parameters were divided by their standard errors it was found that few were significant at 5 per cent significance levels. The significance levels were therefore increased to 10 per cent. The first order effects are not analysed as concern is with the actual relationship between variables.

From Table 30 it can be observed that unemployment is most highly correlated with subjects in the 15 - 19 year age group. The interaction declines in the 20 - 24 year age group, becomes negative in the 25 - 34 year age group, and increasingly so in the 34 - 44 and for respondents over the age of 65. When the log-linear parameters are divided by their standard errors it is found that the interactions are not significant for the 20 - 24 year age group. The pattern however remains intact and the results are what one would expect - unemployment being most likely amongst new entrants into the labour market, and among the elderly. It is possible that some of the subjects regarded as unemployed in the latter category should rather be regarded as not economically active.

Table 30

Estimates of the Log-Linear Parameters (Lambda)

Employment Status	Age 15-19	20-24	25-34	35-44	45-64	65+
Employed	-,210	-,066	,117	,126	,205	-,172
Unemployed	,210	,066	-,117	-,126	-,205	,172

The correlation between unemployment and the sex of the respondent is positive for women and negative for men. This is again not surprising given the high rate of unemployment (33 per cent) noted earlier among women. The interactions are all significant here at 10 per cent significance levels.

Table 31

Estimates of the Log-Linear Parameters

Employment Status	Sex	
	Male	Female
Employed	.044	-.044
Unemployed	-.044	.044

Unemployment is positively associated with respondents who have achieved only a lower primary level of education (none - Std 2). It is negatively correlated with respondents with an intermediate or secondary level of education. The interaction with the intermediate level of education is however not significant.

Table 32

Estimates of the Log-Linear Parameters (Lambda)

School Education	Employment Status	
	Employed	Unemployed
Lower Primary	-.124	.124
Intermediate	.026	-.026
Secondary	.098	-.098

The correlation between unemployment and the sex and occupation of the H.O.H. are not significant.

From the above it is clear that unemployment is highest among new entrants on the labour market and more elderly job seekers. Furthermore, women are more likely to be unemployed than men and people with a lower level of education are more susceptible than those with more advanced schooling.

The results in this chapter have succeeded in confirming theoretical expectations. Furthermore where comparisons with other studies were possible they generally supported the results which adds credibility to

to their validity and reliability

In the following section the results of the survey conducted in Nyanga, Langa, and Guguletu are presented and analysed. Where possible the similarities with Soweto will be noted. Such similarities as may occur suggest that the results may have a wider application especially when it is borne in mind that the Western Cape is something of a special case with respect to the employment of African labour.

3.2 Nyanga, Langa and Guguletu

The interviews in Nyanga, Langa and Guguletu were conducted from July to November 1981. Households to be surveyed in Guguletu were randomly selected using the same method as that employed in Soweto (See Appendix 1). Nyanga and Langa every twentieth house was selected. In all, 922 interviews were completed.

Scholars and the not economically active were included in these interviews to provide information required by another research group. This obviously will affect the profile of the sample as presented here, but these groups are excluded from the actual mobility analysis.

As in the Soweto survey the frequencies differ from table to table which in some cases may lead to confusion and must therefore be explained. A summary of the frequencies in each table is therefore presented and a brief explanation for the variance undertaken.

Summary of the Frequencies Obtained

Table		Frequency
33	Age and Sex Composition of the Sample	919
34	Composition of the sample with respect to Legal Status	916
35	Employment Status of the Sample	916
36	Composition of the sample with respect to school education	918
37	Composition of the sample with respect to Post-school Training	104
38	Reasons for failure to Complete Schooling	601
39	Occupational Distribution of the sample in 1981	524
40	Distribution of the Sample by Industry	507
42	Occupational Distribution of H.O.Hs	837
43	Educational Levels of H.O.Hs	827
44	Educational levels of the sample by Age	921
45	Intergenerational Mobility - Outflow Percentages	474
46	Intergenerational Mobility - Inflow Percentages	474
47	Intergenerational Mobility - Indices of Association	474
48	Index of Dissimilarity	411
49	Intra-generational Mobility: Outflow Percentages	519
50	Intra-generational Mobility: Indices of Association	519
51	Correlation Matrix	474
52	Median Level of Education by Occupational Category	469

As in the Soweto sample the variance in some of the tables is largely due to non-response or illegible or unintelligible answers to particular questions (Tables 33, 34, 35, 36, 42, 43, 44). In other cases the question may only have applied to a fraction of the respondents (Tables 37, 38, 39, 40). There may also be an element of non-response here. The frequencies in tables which include respondent's occupation as the, or one of the variables are far smaller than the total frequency because of the inclusion of scholars and the not economically active in this survey. (Tables 39, 40, 45 - 52). Where a number of variables are considered simultaneously the frequencies are likely to be lower (as cases where some information is missing are excluded). Similarly where the number of variables examined

simultaneously varies so the frequencies are likely to vary.

3.2.1 Data Description

Table 33

Age and Sex Composition of the Sample

Age (years)	Sex					
	Male		Female		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
19 -	67	17,3	113	21,3	180	19,6
20 - 24	70	18,0	87	16,4	157	17,1
25 - 34	86	22,2	118	22,2	207	22,2
35 - 44	36	9,3	57	10,7	93	10,1
45 - 64	107	27,6	135	25,4	242	26,3
65 +	22	5,7	21	4,0	43	4,7
Total	388	100,0	531	100,0	919	100,0

A far higher proportion of the sample falls into the '15 - 19' year age group than in the survey of Soweto or the Peninsula hostels. This is because school pupils are included in this survey whereas they were excluded from the other two. Similarly the proportion of respondents over the age of 65 is greater in this survey which includes pensioners.

As in the Soweto survey there is a bias towards women in the sample (58 per cent). This is again most likely to be due to the fact that women would be at home more frequently when an interviewer called as 73 per cent of the unemployed and 75 per cent of the not economically active were women (See Table 35).

Table 34

Composition of the Sample with Respect to Legal Status

Legal Status	Sex: Male		Female		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Section 10(1)a	251	64,7	334	63,3	585	63,9
Section 10(1)b	100	25,8	115	21,8	215	23,5
Section 10(1)c	22	5,7	59	11,2	81	8,9
Section 10(1)d	6	1,6	1	0,19	7	0,8
Illegal	4	1,0	13	2,5	17	1,9
Unwilling to answer	5	1,3	6	1,1	11	1,2
Total	388	100,0	528	100,0	916	100,0

The results with respect to legal status are again broadly similar to those in Soweto. There are only a small number of contract workers as no hostels were included in the survey. A slightly larger proportion of the Soweto sample were permanent residents by birth, while a slightly smaller proportion were permanent residents through 10 years continuous employment or 15 years continuous residence.

The results are what one would expect. A far greater proportion of the women are dependants (wives are included as dependants if have no Section 10(1)a or b rights of their own) and illegals. Women are more likely to be illegals as it is far more difficult for them to obtain contracts than it is for men while the economic imperatives on them to seek employment are increasing rapidly. Furthermore, many women come to the Peninsula to be with their husbands who are employed here.

Table 35:

Employment Status of the Sample

Status	Sex					
	Male		Female		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
At School	72	18,6	108	20,5	180	19,7
Studying elsewhere	0	-	4	0,8	4	0,4
Employed	250	64,4	229	43,4	479	52,3
Unemployed	32	8,3	87	16,5	119	13,0
Not economically active	34	8,8	100	18,9	134	14,6
Total	388	100,0	528	100,0	916	100,0

The figures for unemployment in Nyanga, Langa and Guguletu are closer to what one would expect than were those in the Soweto survey. 8,3 per cent of the men were found to be unemployed which corresponds closely to Simkins' calculation for metropolitan areas in 1978, while the 16,5 per cent of women found to be unemployed is lower than Simkins' estimate of 22,6 per cent.[1] This is not surprising as the 1978 figures were calculated during a period of economic depression, while the data for this survey were collected at the end of a boom period.

(1) Simkins, C.E.W.: "The CurrentPopulation Survey and South African Unemployment: Some Puzzles." In du Toit, P.J.D., (ed) op. cit.

Table 36

Composition of the Sample with respect to School Education

School Standard	Sex					
	Male		Female		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
None	21	5,4	16	3,0	37	4,0
Sub A - Std 2	21	5,4	24	4,5	45	4,9
Std 3 - Std 5	66	17,0	98	18,5	164	17,9
Std 6 - Std 7	103	26,6	177	33,4	280	30,5
Std 8 - Std 9	121	31,2	162	30,6	283	30,8
Std 10 (with University Exemption)	40	10,3	42	7,9	82	8,9
Std 10	16	4,1	11	2,1	27	2,9
Total	388	100,0	530	100,0	918	100,0

Overall the standard of school education is very similar for respondents in the Soweto survey and respondents in the Nyanga, Langa and Guguletu survey despite minor differences from category to category.

Table 37

Composition of the Sample with respect to Post-School Training

Type of Training	Sex					
	Male		Female		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Office Routine	8	23,5	9	12,9	17	16,4
Sales/Clerical	0	-	0		0	
Managerial/ Administrative	1	2,9	0		1	1,0
Semi-skilled	12	35,3	11	15,7	23	22,1
Skilled manual	2	5,9	3	4,3	5	4,8
Blue-collar technical Nursing (Non-Univ.)	1	2,9	29	41,4	30	28,9
Teachers Training	8	23,5	16	22,9	24	23,1
Bachelor's Degree	2	5,9	2	2,9	4	3,9
Post-graduate Degrees	0		0		0	
Total	34	100,0	70	100,0	104	100,0

In contrast to the results for school education, a far smaller proportion of the respondents in the Peninsula survey have undergone some kind of post-school training than those in the Soweto sample. (12,5 per cent and 25 per cent respectively). The most notable differences occur with respect to the skilled manual, blue-collar technical, and teachers training categories. A far smaller proportion of the respondents with some post-school education in the Cape sample were trained as skilled workers. This is indicative of the fact that the types of occupations for which such training equips one, are generally reserved for Coloureds in the Western Cape due to the Coloured Labour Preference Policy. On the other hand a greater proportion of the respondents with post-school education in the Cape survey had received blue-collar technical training and teachers training. However, if the proportion of respondents with teachers training is taken as a percentage of the total sample (and not as a percentage of those with

some post-school training), it is smaller for the Cape survey than for the Soweto survey and only the proportion of respondents with blue-collar technical training is significantly greater in the Cape survey.

Table 38

Reasons for failure to complete Schooling

Reasons	Sex					
	Male		Female		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Financial Reasons	153	62,5	180	50,6	333	55,4
Wanted or needed to start work	26	10,6	31	8,7	57	9,5
Schoolwork too difficult	18	7,4	16	4,5	34	5,7
Fell Pregnant	-	-	27	7,6	27	4,5
School disturbances	8	3,3	8	2,3	16	2,7
Marriage	0	-	32	9,0	32	5,3
Responsibility at home	24	9,8	30	8,4	54	9,0
Delinquency	11	4,5	6	1,7	17	2,8
Health Reasons	5	2,0	26	7,3	31	5,2
Total	245	100,0	356	100,0	601	100,0

As in the Soweto survey the most common reason given by respondents for not being able to complete their schooling was a lack of funds. The next most significant factors were related to finance (e.g. wanted or need to start work, responsibility at home.).

Table 39

Occupational Distribution of the Sample in 1981

Occupation	Sex					
	Male		Female		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
High Professional	1	0,38	0	-	1	0,2
Executive & Senior Administrative	0	-	0	-	0	-
Salaried Professional	0	-	2	0,8	2	0,4
Lower Executives	1	0,38	0	-	1	0,2
Semi-Professional and Creative	10	3,9	17	6,4	27	5,2
Owners and Executives in Private Firms	4	1,5	2	0,8	6	1,2
Senior Clerical/White-collar Technical	2	0,8	0	-	2	0,4
Clerical/Sales/ Representatives	40	15,4	14	5,3	54	10,3
Blue-Collar Technical	2	0,8	14	5,3	16	3,1
Supervisory & Inspectional	6	2,3	1	0,4	7	1,3
Artisans & Apprentices	4	1,5	0	-	4	0,8
Other Skilled Manual	3	1,2	2	0,8	5	1,0
Routine Non-Manual	22	8,5	32	12,1	54	10,3
Semi-skilled	44	16,9	15	5,7	59	11,3
Unskilled	121	46,5	165	62,5	286	54,6
Total	260	100,0	264	100,0	524	100,0

The largest proportion of the work force is concentrated in the unskilled manual category (55 per cent). This high proportion is particularly notable for women 62 per cent of whom are employed in this category.

The most notable difference from the Soweto survey is this far higher concentration in the unskilled category and the far lower concentration in the semi-skilled category (11 per cent compared to 29 per cent in Soweto), and in the routine non-manual category (10 per cent as compared to 20 per cent in Soweto). The difference

in the semi-skilled category is again most notable for women, 21 per cent of whom are employed in this category in Soweto compared to 6 per cent in Nyanga, Langa and Guguletu. Some insight into these differences is gained by examining the division of the labour force into industries.

Table 40

Distribution of the Sample According to Industry

Industry	Sex					
	Male		Female		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Fishing	4	1,6	1	0,4	5	1,0
Mining	1	0,4	1	0,4	2	0,4
Manufacturing	61	24,8	20	7,7	81	16,0
Electricity/Gas/ Water	2	0,8	0	-	2	0,4
Construction	28	11,4	3	1,2	31	6,1
Commerce	23	9,4	15	5,8	38	7,5
Transport	17	6,9	0	-	17	3,4
Finance	3	1,2	1	0,4	4	0,8
Services	107	43,5	220	84,3	327	64,5
Total	246	100,0	261	100,0	507	100,0

A far smaller proportion of the sample in the Cape is employed in the manufacturing industry which would account to a significant extent for the fact that there are proportionally far fewer respondents employed in the semi-skilled occupational category. (The bulk of the semi-skilled workers in Soweto were machine operatives in manufacturing). The far smaller proportion employed in manufacturing is particularly notable for women (23 per cent in Soweto and 8 per cent in the Peninsula townships). This is because the majority of women, employed in manufacturing in the Peninsula are 'Coloured' and Black women are not able to obtain employment in this industry easily due to the Coloured Labour

Preference Policy. The relatively small proportion of respondents employed in commerce in the Cape (7,5 per cent) may also be one of the factors accounting for the relatively smaller proportion of respondents employed in the routine non-manual category. The high proportion of respondents employed in services (65 per cent) is primarily due to the large number of women employed in domestic service. (84 per cent of the women are employed in services). This is reflected in the preponderance of the unskilled employment category.

The effect of the industrial division on the occupational structure can be more accurately ascertained by using shift-share analysis.

The procedure is as follows:
Firstly two-way tables of occupation by industry are formed for the Soweto sample and the Peninsula sample.

If the rows are industries and the columns occupational categories, then the frequencies in each cell of the Soweto table are multiplied by the row totals from the Peninsula table and divided by the row totals from the Soweto table. The resulting occupational division (column totals) illustrates the extent of the change in the occupational structure that can be attributed to the difference in industrial formation.

Table 41

Occupational Structure

Occupation	Percentage		
	Soweto	Shift	Nyanga/Langa/ Guguletu
High Professional	0,1	0,3	0,2
Executive and Senior Administratives	-	-	-
Salaried Professional	-	-	0,4
Lower Executives	0,5	0,2	0,2
Semi-Professional and Creative	5,5	10,9	5,2
Owners and Executives in Private Firms	0,3	0,2	1,2
Senior Clerical/White-collar Technical	2,3	1,0	0,4
Clerical/Sales/Representatives	6,8	4,0	10,3
Blue-Collar Technical	5,7	10,8	3,1
Supervisory and Inspectional	1,3	1,1	1,3
Artisans and Apprentices	0,5	0,6	0,8
Other Skilled Manual	5,4	5,6	1,0
Routine Non-Manual	19,7	11,1	10,3
Semi-skilled	28,7	19,7	11,3
Unskilled	23,2	34,6	54,6
Total[1]	100,0	100,0	100,0

The first category of interest here is the Semi-Professional and creative category. 5,5 per cent of the Soweto sample were employed in this category and adjusting for the different industrial division it is expected that 10,9 per cent of the Peninsula sample will be employed in this category. However it is found that only 5,2 per cent are actually so employed. The main reason for this discrepancy is fairly obvious. The majority of black employees in this category are teachers who are included under services.

(1) May not total to 100 due to rounding.

Because the proportion of respondents in services is so much greater in the Peninsula survey one would expect ceterus paribus that the proportion of teachers will be greater. However, it is due to the great increase in employment in domestic service that the services sector is so much bigger and the proportion of teachers remains much the same.

The expected proportion of respondents in the blue-collar technical category in the Peninsula townships is also far greater than the observed proportion. The primary reason is the same as for the semi-professional category, as the majority of employees in the blue collar technical category are nurses who are included in the services sector.

19,7 per cent of the Soweto sample are employed in the routine non-manual category. The expected proportion for the Peninsula townships is 11,1 per cent and the observed proportion 10,3 per cent. Thus almost all the variation in the occupational structure here can be attributed to changes in the industrial division (i.e. to the far smaller proportion of the sample employed in commerce).

It is expected that 5,6 per cent of the Peninsula sample should be employed in skilled manual occupations. It can be seen however that only 1 per cent are employed in this category. This is mainly due to the fact that most skilled manual jobs in the Western Cape are reserved for Coloureds.

The observed proportion of blacks employed in the semi-skilled category is significantly smaller than the expected proportion or the proportion in Soweto. This can again partly be accounted for by job reservation and also partly by the change in the industrial division. The latter accounts for the change from 28,7 per cent in Soweto to the expected 19,7 per cent, and the former for part of the discrepancy between 19,7 per cent and the observed 11,3 per cent.

A far greater proportion of the respondents in the Peninsula are employed in the unskilled category than expected. This is because these unskilled occupations are generally the ones where blacks can readily find employment as they are not protected for Coloured workers. Blacks, who were they living in Soweto would be employed in more skilled occupations, are often forced to accept employment in this category.

Table 42

Occupational Distribution of Heads of Households in which the Respondents grew up

Occupation	Frequency	Percentage
High Professional	4	0,5
Senior administrative	1	0,1
Salaried Professional	3	0,4
Lower Executive	1	0,1
Semi-Professional and Creative	39	4,7
Owners and Executives in Private Firms	7	0,8
Senior Clerical/White Collar Technical	1	0,1
Clerical/Sales/Representatives	37	4,4
Blue-collar Technical	4	0,5
Supervisory and Inspectional	12	1,4
Artisans and Apprentices	7	0,8
Other skilled manual	8	1,0
Routine non-manual	74	8,8
Semi-skilled	68	8,1
Unskilled	524	62,6
Farm	47	5,6
Total	837	100,0

A significantly greater proportion of the H.O.H. generation is employed in the unskilled occupational category. The difference between the occupational division of the respondents and that of the heads of households is not as great in the Cape sample. 80,2 per cent of the H.O.Hs are men and 19,8 per cent women in the Cape sample.

Table 43

Educational Distribution amongst the Heads of the Households in which the Respondents grew up

School Standard	Frequency	Percentage
None	186	22,5
Sub A - Std 2	83	10,0
Std 3 - Std 5	171	20,7
Std 6 - Std 7	228	27,6
Std 8 - Std 9	109	13,2
Std 10	50	6,0
	827	100,0

With respect to the educational distribution of the heads of households, it is evident from Table 43 that they are more highly concentrated at lower levels of education than are the respondents themselves. As in the Soweto survey this is indicative of an overall improvement in the educational standards of the sample population which can be confirmed by dividing the sample into age cohorts. The first cohort includes all respondents aged 29 or under and the second, all respondents aged 30 or older, (29 being the approximate median age for the sample). Table 44 illustrates that there is a clear tendency towards an overall improvement in the standard of school education over time.

The older age cohort is strongly over-represented at lower primary levels of education and where the respondents have no education at all. The opposite applies for members of the younger cohort who are strongly over-represented at higher secondary school levels of education (Std 8 - 10).

Table 44

Educational Distribution of the Sample according to Age

Educational Standard	Age: 29 and less Frequency	Per cent	30 and older Frequency	Per cent
None	7	18,0	32	82,1
Sub A - Std 2	14	30,4	32	69,6
Std 3 - Std 5	76	46,3	88	53,7
Std 6 - Std 7	124	44,3	156	55,7
Std 8 - Std 9	181	64,0	102	36,0
Std 10 U.	47	57,3	35	42,7
Std 10	17	63,0	10	37,0
	466	50,5	455	49,5

3.2.2 Inter-generational Occupational Mobility amongst Economically Active Residents of Nyanga,'Langa and Guguletu.

3.2.2.1 Mobility Patterns

For the sake of brevity no detailed discussion will be undertaken here into the inflow and outflow percentage tables.[1] For the sample as a whole, about 39 per cent of the respondents are employed in higher ranking occupations than those held by their respective H.O.H., approximately 18 per cent are employed in lower ranking occupations, and the remaining 43 per cent have remained in the same employment category.

The patterns with respect to recruitment are in broad agreement with those resulting from the Soweto survey. From Table 46 it can be observed that the highest proportion of respondents in all occupational categories (excluding those in which the frequencies are too

(1) Because these tables are only briefly discussed here, the occupational categories are not aggregated (as was done for the Soweto sample) to enable a more precise and detailed analysis.

low reliability) were recruited from homes in which the head was an unskilled worker. This is not surprising as 62,6 per cent of the heads of households were employed in this category and this proportion declined to 54,7 per cent for the respondent's generation.

Unskilled workers again show the highest percentage of self recruitment (recruiting only 29 per cent from other occupational origins), while the other categories examined all recruit at least 84 per cent of their workforce from other categories. In the non-manual categories, this low rate of self-recruitment linked with a high rate of occupational inheritance is again indicative of the rapid relative growth of these occupational categories and of the increasing extent of upward mobility into them.

3.2.2.2 Relative Mobility

Table 47 presents the ratios of observed frequencies to frequencies expected on the assumption of independence. (Indices of association). As in the Soweto survey some anomalous results do appear due to the fact that the frequencies are too small in particular occupational categories. It is again apparent that occupational inheritance is in all cases greater than expected (excluding those categories where the frequencies are too small for reliability).

Upward mobility is more common than downward mobility and there are again no underlined values in the upper right or lower left corners of the table which would be indicative of 'long-distance' mobility. Upward mobility occurs into the semi-professional category from the clerical, low non-manual, and semi-skilled categories. This differs from the result in Soweto, where upward mobility for this category was only from other non-manual occupational categories. The upward mobility from the clerical category occurs amongst women only, while that from farming origins into the semi-professional category is specific to men. Overall, there is upward mobility from the semi-skilled into the clerical category, but there is also mobility into this category for women from low non-manual origins. There is upward mobility amongst women from the unskilled, and low non-manual origins into the blue-collar technical category but in aggregate

(i.e. men and women together) this cannot be observed. Upward mobility also occurs to a greater degree than would be expected on the assumption of independence from the unskilled into the skilled manual category, and in turn from the farm labour into the unskilled manual category. (See Tables 1 and 2 of Appendix 6 for breakdown by sex.)

Downward mobility is (as in Soweto) most common for respondents who originate in the semi-professional occupational category and it occurs into the clerical, blue-collar technical (amongst women only), and semi-skilled occupational categories. There is therefore more 'long distance' downward mobility from this category in the Cape survey than in the Soweto survey although it is similarly primarily into other non-manual occupations. There is also overall downward mobility from the clerical category into the low non-manual category and amongst men only, into the semi-skilled category. Downward mobility also occurs from the low non-manual into the semi-skilled category.

It is apparent from the ratios of observed to expected frequencies on the assumption of independence that, as in the Soweto survey, the degree of occupational inheritance is greater in occupations requiring a higher level of education (i.e. semi-professional and clerical occupational categories) than in the manual occupational categories. This is again indicative of the degree to which closure is based on education in occupations at the upper end of the occupational hierarchy.

TABLE 45

MOBILITY FROM H.O.H.'s OCCUPATION TO 1981 OCCUPATION FOR ALL RESPONDENTS:

OUTFLOW PERCENTAGES

H.O.H. Occupation	Respondents Occupation 1981														
	High Prof.	Senior Exec.	Salaried Prof.	Lower Exec.	Semi-Prof.	Private Owners	Senior Clerical	Clerical	Blue-collar Technical	Super-visory	Artisan	Skilled Manual	Low Non-Manual	Semi-skilled	Unskilled
High Professional								50,0*						50,0*	
Senior Executives (large organistn.)															
Salaried Professionals								100,0*							
Lower Executives													100,0*		
Semi-Professional					13,8		3,5*	17,2	3,5				10,3	20,7	31,0
Private Owners							33,3*								66,7*
Senior Clerical															100,0*
Clerical					6,7			33,3					13,3	6,7	40,0
Blue Collar Technical					33,3*			33,3*					33,3*		
Supervisory												33,3*			66,7*
Artisan															100,0*
Skilled Manual				25,0*				25,0*	25,0*					25,0*	
Low-Non-Manual			2,8*		11,1			8,3	2,8				11,1	19,4	44,4
Semi-Skilled					8,3			19,4	2,8				5,6	19,4	44,4
Unskilled	0,3*				3,5	1,6		8,4	3,2	1,6	1,0*	1,3	10,3	10,0	58,5
Farm					3,7	3,7					3,7*		14,8		74,1
TOTAL	0,2	0,00	0,4	0,2	5,3	1,3	0,4	10,6	3,0	1,1	0,8	1,1	10,3	11,4	54,0

* Denotes cells in which the frequencies were too small for reliability

TABLE 46

MOBILITY FROM FATHERS OCCUPATION TO OCCUPATION IN 1981 - INFLOW PERCENTAGES

H.O.H. Occupation	Respondents Occupation 1981														
	High Prof.	Senior Exec.	Salaried Prof.	Lower Exec.	Semi-Prof.	Private Owners	Senior Clerical	Clerical	Blue-collar Technical	Super-visory	Artisan	Skilled Manual	Low Non-Manual	Semi-skilled	Unskilled
High Professional								2,0						1,9	
Senior Executives (large organistn.)															
Salaried Professionals								2,0							
Lower Executives													2,0		
Semi-Profess.					16,0			10,0	7,1				6,1	11,1	3,5
Private Owners															0,8
Senior Clerical															0,4
Clerical					4,0			10,0					4,1	1,9	2,3
Blue Collar Technical					4,0			2,0					2,0		
Supervisory															0,8
Artisan															0,8
Skilled Manual								2,0	7,1					1,9	
Low-Non-Manual					16,0			6,0	7,1				8,2	13,0	6,3
Semi-Skilled					12,0			14,0	7,1				4,1	13,0	6,3
Unskilled					44,0	83,3		52,0	71,4				65,3	57,4	71,1
Farm					4,0	16,7							8,2		7,8

TABLE 47

MOBILITY FROM H.O.H.'s OCCUPATION IN 1981 FOR ALL RESPONDENTS:
RATIOS OF OBSERVED FREQUENCIES TO FREQUENCIES EXPECTED ON THE ASSUMPTION OF INDEPENDENCE

H.O.H. Occupation	Respondents Occupation 1981														
	High Prof.	Senior Exec.	Salaried Prof.	Lower Exec.	Semi-Prof.	Private Owners	Senior Clerical	Clerical	Blue-collar Technical	Super-visory	Artisan	Skilled Manual	Low Non-Manual	Semi-skilled	Unskille
High Professional								4,7*						4,4 *	
Senior Executives (large organistn.)															
Salaried Professionals								9,5*							
Lower Executives													9,7*		
Semi-Profess.					2,6		8,2*	1,6	1,2				1,0	1,8	0,6
Private Owners							79,4*								1,2*
Senior Clerical															1,9*
Clerical					1,3			3,2					1,3	0,6	0,7
Blue Collar Technical					6.3*			3,2*					3,2*		
Supervisory												31,7*			1,2*
Artisan															1,9*
Skilled Manual				119,1*				2,4*	8,5*					2,2*	
Low-Non-Manual			6,6*		2,1			0,8	0,9				1,1	1,7	0,8
Semi-Skilled					1,6			1,8	0,9				0,5	1,7	0,8
Unskilled	1,5*				0,7	1,3*		0,8	1,1	1,5*	1,1*	1,2	1,0	0,9	1,1
Farm					0,7	2,9*					4,4*		1,4		1,4

* Denotes cells in which the frequencies were too small for reliability.

Concentration of Supply and Recruitment

Table 48 presents an index of the concentration of supply and recruitment to and from the given occupational categories. The high professional, salaried professional, and semi-professional categories have been aggregated into a single 'professional' category. The executives in large firms, lower executives, and owners and executives in small private companies have been aggregated into a single 'bourgeois' category. The clerical and senior clerical, and artisans and other skilled manual categories have been similarly aggregated into a 'clerical' and 'skilled manual' category respectively.

Table 48

Index of Dissimilarity Between Destination or Origin Distribution of Vertically Mobile Respondents and Distribution Expected on The Model of Quasi-Independence, for Specified Origin or Destination.

Occupation of Origin or Destination	Concentration of Supply	Concentration of Recruitment
- H.O.H. Occupation to Respondent's Occupation in 1981		
Professional	31,32	24,06
Bourgeois	28,90	27,43*
Clerical	22,99	23,31
Blue-Collar Technical and Supervisory	45,36	17,49
Skilled Manual	39,88	28,06
Routine Non-Manual	16,80	6,34
Semi-skilled	19,15	17,53
Unskilled	5,60	7,74

* Categories denoted by an asterick are unreliable as the proportion of the sample falling within the particular category is too small.

As in the Soweto survey the degree of dispersion is highest from the unskilled category as the given category of origin which is indicative of the fact that this is the largest employment category but has been declining relatively over time. The concentration of supply is highest from the skilled manual and professional categories and there is a tendency for the concentration of supply to increase higher up on the occupational hierarchy (excluding categories denoted with an asterisk)

which indicates that more skilled occupations of origin generally supply to fewer occupational destinations.

Unlike the results in the Soweto survey the concentration of recruitment is lowest into the unskilled occupational category. This is due to the fact that recruitment into this category does not occur in disproportionately large numbers from any other occupational origins, whereas in the Soweto sample there was disproportionate mobility into this category from the semi-skilled category. Recruitment is most concentrated into the professional and skilled manual category, occurring into the former primarily from the clerical, low non-manual and semi-skilled employment categories, and into the latter from the supervisory, unskilled and farm labour categories.

3.2.3 Intra-generational Mobility Amongst Employed Respondents in Nyanga, Langa and Guguletu

The frequencies in some of the categories in the occupational matrix are too small for statistical reliability. In order to circumvent this problem, certain categories have been aggregated. The high, salaried, and semi-professional categories have been aggregated into a single professional category. The executives in large organisations, low-executives and private owners have been aggregated to form a 'bourgeois' category. The senior clerical and clerical categories have been aggregated, a single clerical category and the artisan and skilled manual categories have been aggregated into a single skilled manual category. The Mobility patterns are illustrated in Table 49.

3.2.3.1 Relative Mobility

The ratios of observed frequencies to frequencies expected on the assumption of independence indicate whether and to what extent the first occupations supply labour to 1981 occupations to a greater or lesser extent than the average outflow for the total population in the sample. It is apparent from Table ___ that all 10 occupational categories retain a disproportionate share of respondents and supply comparatively little manpower to other occupations between the first jobs of the respondents and their occupations in 1981. This is indicated by the high ratios in the diagonal and shows that once people

Table 49 Mobility from First Job to 1981 Occupation: Outflow Percentages

Respondents' Occupation - 1981

First Job	Professional	Bourgeois	Senior Clerical & Clerical	Blue-Collar Technical	Super-visory	Skilled Artisan & Manual	Low Non-Manual	Semi-Skilled	Un-skilled	
Professional	91,67						8,33			
Bourgeois*		*100,00								
Senior Clerical and Clerical		3,03	* 87,88			3,03		6,06		
Blue-Collar Technical			12,50	*87,50						
Supervisory*			16,67		*50,00	16,67		16,67		
Artisan and Skilled-Manual	16,67					*83,33				
Low Non-Manual		1,85	12,96		3,70	3,70	* 70,37	1,85	5,56	
Semi-Skilled		3,77	13,21		3,77		7,54	*66,04	5,66	
Unskilled	1,23	0,61	2,76	0,61	-	-	2,76	6,13	* 85,89	
TOTAL	5,20	1,35	10,60	3,08	1,35	1,73	10,21	11,37	55,10	100

* Denotes categories in which the frequencies were too small for reliability.

start work in a particular occupational category, they tend to remain employed in the particular category. There is however a significant degree of mobility exceeding expectations, indicated by the scattering of underlined values off the principal diagonal. Upward mobility is far more prevalent than downward mobility and also occurs over a 'longer-distance' than does downward mobility. Upward mobility is most notable from the low non-manual category and it occurs into the 'bourgeois' clerical, supervisory, and skilled manual categories. Excessive upward mobility occurs into these same categories (with the exception of the skilled manual category), from the semi-skilled occupational category. Upward mobility in proportionately excessive numbers, also occurs from the supervisory and blue-collar technical categories into the clerical category, and from the clerical category into the 'bourgeois' category. As in the Soweto sample, respondents beginning employment in the unskilled category do not move in proportionately excessive numbers to any higher occupations. There is however upward mobility from other manual employment categories across the manual/non-manual divide, which suggests that this barrier is not as impermeable in the Western Cape as it was found to be for the Soweto sample.

Downward mobility in excess of expectations is far more limited, occurring from the supervisory into the skilled-manual and semi-skilled categories, and from the clerical into the skilled-manual category. There are therefore incidences of downward mobility from non-manual into manual occupations which again shows that this barrier is not as significant as in the Soweto sample.

Table 50 Mobility from First Job to 1981 Occupation: Ratios of Observed Frequencies to Frequencies Expected on the Assumption of Independence

Respondents' Occupation - 1981

First Job	Professional	Bourgeois	Senior Clerical & Clerical	Blue-Collar Technical	Super-visory	Skilled Artisan & Manual	Low Non-Manual	Semi-Skilled	Un-skilled
Professional	17,63						0,82		
Bourgeois*		74,07 *							
Senior Clerical and Clerical		2,24	8,30			1,75		0,53	
Blue-Collar Technical		-	1,18	28,41		-		-	
Supervisory*		-	1,57		37,04	9,63		1,44	
Artisan and Skilled-Manual	3,21				-	48,16			
Low Non-Manual		1,37	1,22		2,74	2,14	6,89	0,16	0,10
Semi-Skilled		2,79	1,25		2,79		0,74	5,81	0,10
Unskilled	0,24	0,45	0,26	0,20	-	-	0,27	0,54	1,56

* Denotes categories in which the frequencies were too small for reliability.

3.2.4 The Determinants of Mobility

3.2.4.1 Regression Analysis and Path Models

Table 51 is the correlation matrix for the variables under consideration and it presents the gross correlations between the variables.

Table 51

Correlation Matrix

Variable	Variable A Respondents Occupation	B Household Heads Occupation	C Respondents School Education	D Respondents Post-School Education	E Household Heads Education
A	1,0000				
B	0,1565	1,000			
C	0,4074	0,1046	1,000		
D	0,4733	0,0132	0,2735	1,0000	
E	0,1592	0,2921	0,2227	-0,0166	1,0000

As in the Soweto survey, the gross correlation is highest between post-school education and the respondents occupation, followed by the correlation between school education and the respondents occupation. The education of the household head has the next most significant gross influence on the respondents occupation, followed lastly by the influence of the H.O.H's occupation. This is again similar to the Soweto findings. The magnitude of these correlations is however in all cases smaller than those computed in the Soweto survey which suggests that although the correlations are of the same relative importance in the Cape Peninsula, they are not as strong. That the correlations between education and occupation are weaker in the Peninsula townships than in Soweto is not surprising. Hubbard, and Qunta, in their study of the Western Cape found that 'respectable' jobs for Africans were crowded out, and that educated Africans

had to accept jobs lower down on the occupational hierarchy.[1] They ascribed this to government labour policies which, they argued, effectively debarred blacks from all trades, and prevented them from gaining employment in any category unless "there was no suitable person classified Coloured available for the job. Thus the only fields in which it is generally possible for Africans in Cape Town to rise to senior positions are teaching, the Church, Bantustan government representation, or private medical practice.[2]

The process of crowding out can be readily confirmed in this study by comparing the mean level of education for each occupational category in the Peninsula with that in Soweto. From Table 52, it can be seen that the median level is consistently higher or the same as in Soweto. This is indicative of the fact that there is greater competition among black workers for available jobs in the Peninsula and in so far as education is a criterion for employment in certain categories the minimum level is bid upwards. The result is that blacks are employed in jobs lower on the occupational hierarchy than would be the case in Soweto given their educational standards.

Table 52

Median Level of Education for each Occupational Category

Occupation	Median level of education (number of years)	
	Soweto	Peninsula Townships
Professions (1,3,5)	10	10
'Bourgeois' occupations (2,4,6)	9	10
Senior Clerical	10	-
Clerical/Sales/Represenatives	8	10
Blue-Collar Technical	9	10
Supervisory	6	10
Artisans and Apprentices	8	8
Other Skilled Manual	8	9
Routine Non-Manual	8	9-10
Semi-skilled	5-6	9-10
Unskilled	4	8

(1) Hubbard, M. and Qunta, V. Education for Underemployment. S.A.I.R.R. 1975 p.16.
(2) ibid., pp. 2-3

This again confirms the observation that occupational mobility among blacks in the Peninsula is demand constrained and that a reservoir of untapped or under-employed skilled labour exists in the region.

It is possible that chance alone has brought about the configuration of results in Table 52 and that a repetition of the experiment could alter the picture. This possibility can be evaluated using the median test.[1]

The first step is to find the median level of education. (M) for both Soweto and the Peninsula townships. (See Appendix 5, Table 1). All the scores are then divided into one of two groups. The first group consists of scores that are greater than the median ($> M$). The second group consists of the remaining scores ($\leq M$). Finally, the number of scores in the Soweto sample and the number of scores in the Peninsula townships sample which belong to these two groups is calculated. (See Appendix 5, Table 2).

The null hypothesis is that there is no difference between the median level of education in Soweto, and that in the Peninsula townships. When the null hypothesis is correct, whether an observation falls above M or not is unrelated to whether it is an observation from Soweto or from the Peninsula townships. To test this proposition, the chi square test is applied.[2] For 2 x 2 tables, X^2 can be computed, using a special formula[3]. (See Appendix 5).

$$X^2 = 2{,}05$$

For one degree of freedom the descriptive level associated with X^2 is 0,455 (at 95 per cent confidence limits). The null hypothesis is therefore rejected and one can conclude that the different median levels of education in the two regions is not merely due to chance.

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(1) See Noether, G.E., Introduction to Statistics: a Nonparametric Approach. Houghton Mifflin Company, 1976, pp. 161-162.

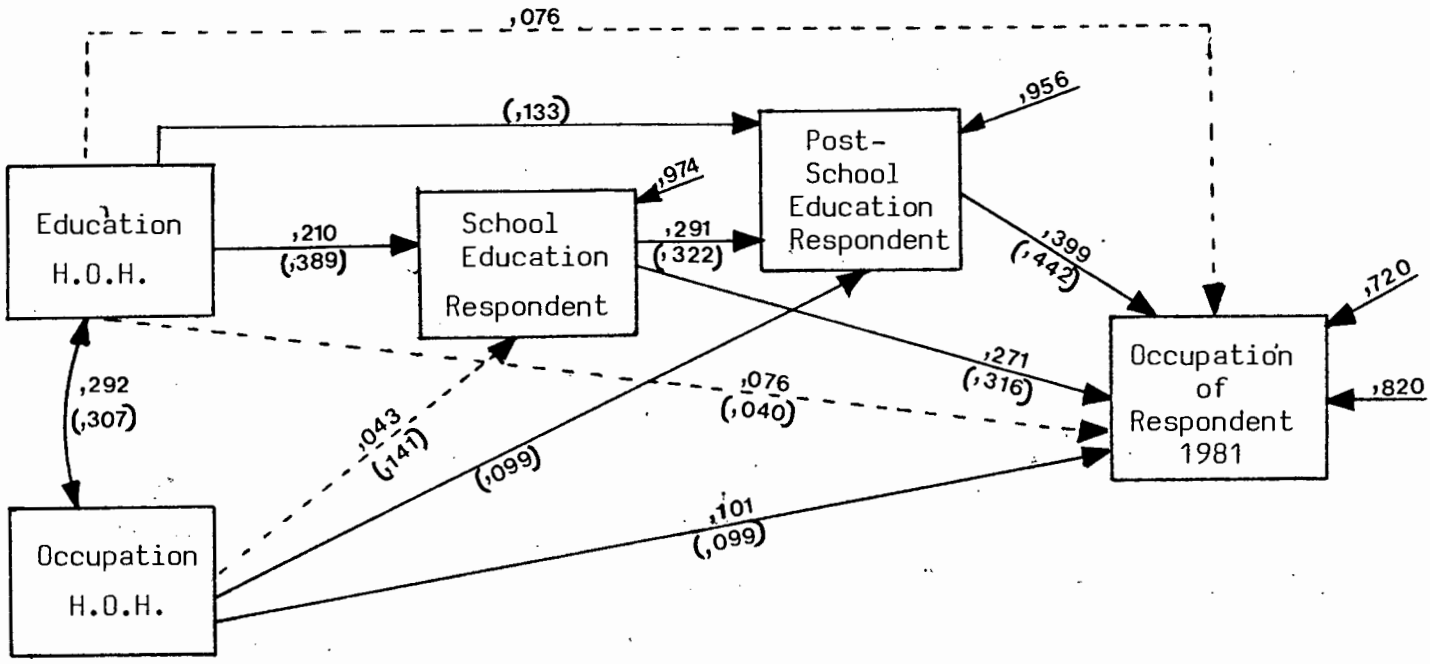
(2) The chi-square statistic is a test of independence between rows and columns of a table. It is defined as $X^2 = \Sigma(a_{ij}-e_{ij})^2/e_{ij}$ Where a_{ij} is the observed frequency in cell (i,j).

(3) Noether, G.E., op. cit., pp. 115-116.

Following the same procedure as used in analysing the Soweto data a series of regression equations are constructed and the standard regression coefficients computed.

Figure 5

Path Coefficients [1]



It is again apparent from the results of this study that, as in Soweto, occupational roles of the respondents are allocated mainly on the basis of educational attainment. Although the level of school, and post-school education are in turn influenced by social origins (i.e. the education and occupation of the H.O.Hs), these background factors do not seem to have as powerful an influence on education as they did for the Soweto sample. The occupation of the H.O.H. has a direct influence on the respondent's occupation as well, although the H.O.H's education does not, (i.e. it is not significant judging from the T-test criteria).

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(1) Figures for Soweto given in parentheses.

NOTE: Dotted lines indicate that the association is not significant.

Table 53

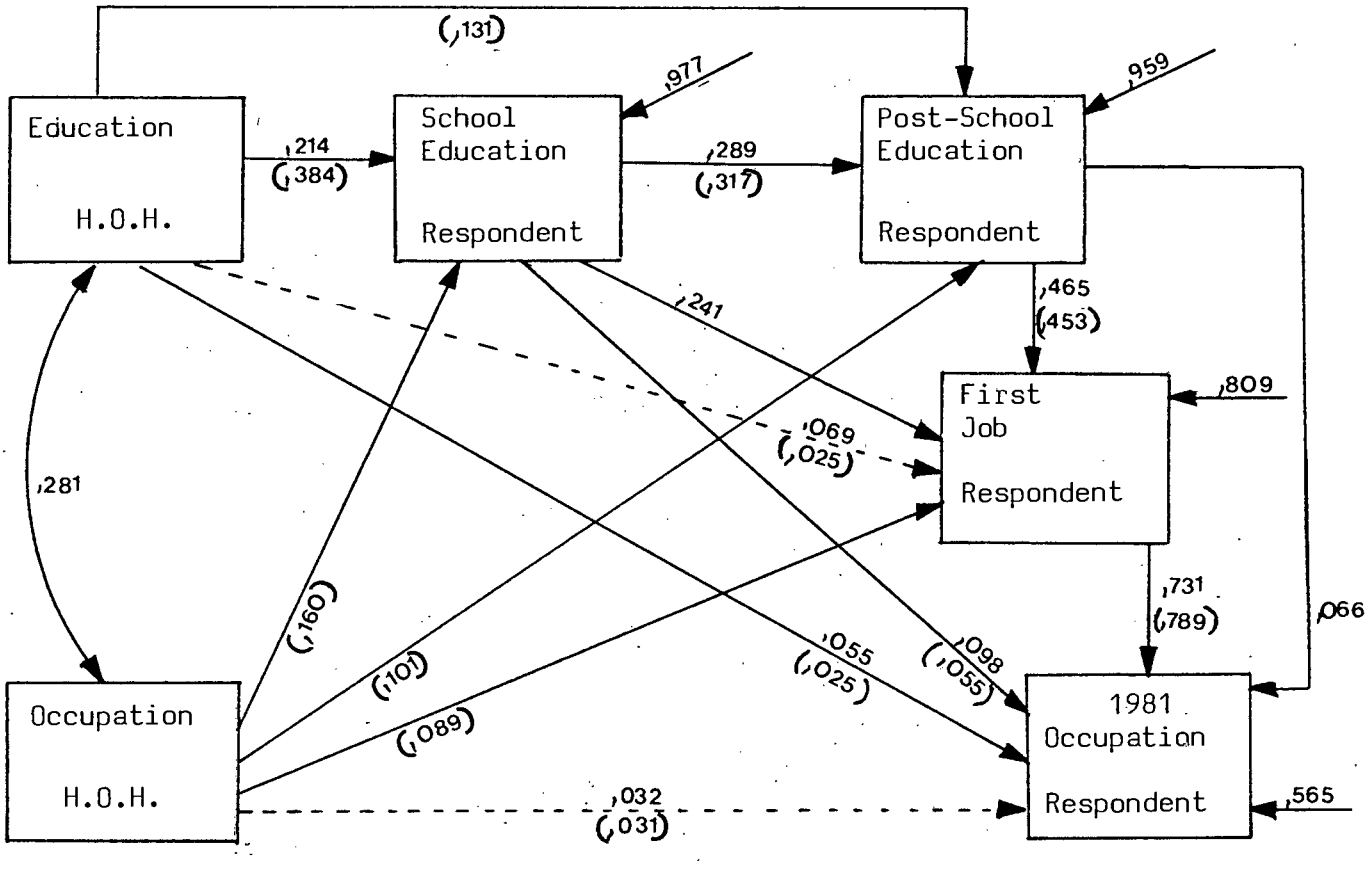
Correlation Matrix

Variable	Variable					
	Respondents Occupation A	First Occupation B	H.O.H. occupation C	School Education D	Post-School Education E	H.O.H. Education F
A	1,0000					
B	0,8137	1,0000				
C	0,1572	0,1356	1,0000			
D	0,4098	0,3819	0,0982	1,0000		
E	0,4788	0,5291	0,0122	0,2707	1,0000	
F	0,1640	0,1104	0,2814	0,2139	-0,0224	1,0000

When first occupation is introduced as a variable in the model, it is found to have the greatest gross correlation with the respondents occupation in 1981. The correlation is almost twice as great as that for the respondents education, which does however continue to exert significant gross influence on the respondents occupation in 1981. The respondent's first job is however itself strongly influenced by school, and post-school education, and thus these variables have a notable direct and indirect influence on the respondents final occupation. A clearer picture can be obtained by constructing a path model.

Figure 6

Path Coefficients



The above figure illustrates that the results for the Peninsula survey are similar to those for Soweto. The exception is again the significance of background variables which appear to exert a weaker influence on the respondents education and occupation in the Peninsula townships than they do in Soweto. The influence of background factors are predominantly indirect being mediated through the school and post-school education of the respondent. Unfortunately the influence of the H.O.H's education on first occupation is not significant which prevents an adquate comparison of its relative influence on the respondents first job with that on his or her occupation in 1981. However it does not appear to be any less significant an influence on subsequent employment (although it remains small in magnitude). Generally the standardized regression coefficients are smaller in the Peninsula model. The implication is that the variables included in the model

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(1) Figures for Soweto given in parentheses.
Note: Dotted lines indicate the association is not significant.

in most cases account for less of the variance in one another and in turn on the respondent's occupation than is the case for Soweto. This is to be expected as the respondents' occupations in particular are affected by the Coloured Labour Preference Policy in the Peninsula, and this factor is not independently included in the model. Its effect is therefore included in the residual values which, partly explains the greater size of these residuals in the Peninsula model.

3.2.4.2 Multivariate Contingency Table Analysis

The same technique was followed as in the Soweto survey, certain first and second order effects were found to be significant and the following models were fitted. AE, BC, BD, BE, CD, CE, DE.[1]

Although the trends emerging were in most cases similar to those found in Soweto, when the lambda's were divided by their standard errors, the majority were not found to be significant. Thus the null hypothesis cannot be rejected or accepted and no definite conclusions can be drawn from these results. Where the confidence limits are raised to 10 per cent a few of the results become statistically significant.

A fairly clear pattern emerges for the relationship between the education of the H.O.H. and that of the respondent. Where the H.O.H. had only a lower primary education, the association was positive and relatively strong only with respondents with a similar level of education. Where the H.O.H. had a secondary level of education, this was strongly negatively associated with respondents with only lower primary education and positively correlated with respondents with intermediate or secondary levels of education (more powerfully with the latter).

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(1) Where :A. represents sex,
B. school education
C. H.O.H. occupation
D. H.O.H. education
E. respondents occupation

Table 54

School Education

School Education H.O.H.	Low Primary	Intermediate	Secondary
Low Primary	,235	,115	-,351
Intermediate	-,201	,041	,161
Secondary	-,034	-,156	,190

With respect to the association between school education and occupation it can be observed that lower primary education is positively associated with skilled manual employment and negatively with non-manual employment, that intermediate levels of education are negatively correlated with high non-manual employment and positively with unskilled employment, and that secondary levels of education are positively correlated only with non-manual and high non-manual categories of employment and the interaction with the unskilled category is strongly negative. The other correlations are not significant judging from t-test criteria at 10 per cent confidence limits.

Table 55

School Education

Occupation	Low Primary	Intermediate	Secondary
High Non-Manual	,097	-,307	,210
Non-Manual	-,286	-,004	,290
Skilled Manual	,276	-,155	-,122
Semi-skilled	,060	-,005	-,055
Unskilled	-,148	,471	-,323

The correlations between the education and occupations of the H.O.Hs is broadly similar to that emerging for the respondents. High non-manual and non-manual employment is positively associated with secondary school attainment only, while employment in the unskilled category is strongly and negatively correlated with secondary levels

of schooling but is positively associated with intermediate and lower primary levels. The other correlations are again not significant.

Table 56

Occupation H.O.H.

Education H.O.H.	Occupation					
	High Non-manual	Non Manual	Skilled	Semi-Skilled	Un-Skilled	Farm
Low Primary	-,341	-,230	,033	-,163	,324	,376
Intermediate	-,303	-,034	-,200	,223	,549	-,234
Secondary	,644	,264	,167	-,061	-,873	-,141

With respect to the relationship between the occupations of the H.O.Hs and respondents, the correlations are significant only where the H.O.H. was employed in the unskilled category. The interaction is negative with respondents in the high-non-manual, skilled manual and semi-skilled manual categories and strongly positive with respondents in the unskilled category.

Table 57

Occupation Respondent	Occupation H.O.H.					
	High Non-Manual	Non-Manual	Skilled	Semi-skilled	Un-skilled	Farm
High Non-Manual	,154	,078	,139	-,075	-,416	,120
Non-Manual	-,050	,148	-,138	-,038	,221	-,143
Skilled	,016	-,168	,389	-,026	-,406	,195
Semi-skilled	,112	-,082	,077	,193	-,088	-,211
Unskilled	-,232	,025	-,467	-,054	,689	,039

The general tendency emerging thus seems to be one where respondents from homes in which the H.O.H. was well educated are themselves relatively well educated and employed in higher status occupations. The lack of significance in several cases prevents as comprehensive an analysis as in the Soweto survey.

CHAPTER 4

HOSTEL DWELLERS

4. An earlier postulate in this paper was that the division between blacks in South Africa who have the right to permanent residence in an urban area and those who do not is widening. Although the samples in Soweto, Nyanga, Langa and Guguletu excluded hostels and therefore contract workers from the sample, a Saldru project co-ordinated by Ian Goldin included a survey of hostel dwellers in Nyanga, Langa and Guguletu from which sufficient raw data was obtained to enable an analysis of the effects of legal status.

4.1 Survey of Hostel Dwellers in Nyanga, Langa and Guguletu

The survey was conducted in November and December of 1981 and covered 383 hostel dwellers living in the following hostels:

1) Langa North
2) Langa Main
3) Langa Zones
4) Langa Employers
5) Langa S.A.R. & H.
6) Guguletu (B.A.A.B.)
7) Guguletu Employers
8) Nyanga (B.A.A.B)
9) Nyanga Employers

Tables 1 to 10 present a description of the sample.

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(1) Goldin, I. The Coloured Labour Preference Policy and Labour in the Western Cape. SALDRU Working Paper (forthcoming).

4.2 Data Description - Cape Hostels

Age Composition

Table 1

Age Distribution of Sample

Age (Years)	Frequency	Percentage
15-19	9	2,4
20-24	46	12,1
25-34	117	30,7
35-44	76	20,0
45-64	122	32,0
65+	11	2,9
	381	100,0

The median age of the sample falls within the '35-44' year age group. This illustrates that respondents in the sample are generally older than household residents in the Soweto and Peninsula townships samples, where the median age fell in the '25-34' year age group. This is primarily due to the extremely small proportion of hostel dwellers in the 15-19 age groups. It is to be expected that this age group would be better represented in the household surveys where respondents of this age group were still living with their parents or guardians, whereas the hostel dwellers were essentially single men. The 45-64 year age group is also relatively over-represented in the hostels survey.

Sex Composition

Table 2

Sex Composition of Sample

Sex	Frequency	Percentage
Male	372	97,4
Female	10	2,6
	382	100,0

Since the hostels included in the survey are all single men's quarters, women were excluded from the survey and those included must have been residing in the hostels illegally.

Legal Status

Table 3

Legal Status Composition of the Sample

Legal Status	Frequency	Percentage
S 10(1) a	45	12,0
S 10(1) b	108	28,7
S 10(1) c	6	1,6
S 10(1) d	173	46,0
Illegal	39	10,4
Unwilling to Answer	5	1,3
	376	100,0

These results conform fairly closely to those of Graaf and Maree who found that Section 10(1)b workers were in a similar situation to contract workers, as they also originate from rural areas and are not allowed to let their wives live with them unless they qualify in their own right to reside legally in the area. For this reason a large number of 10(1)b men live in the bachelor quarters.[1] Graaff and Maree also identified 10 per cent of the workforce as illegal workers.

Employment Status

Table 4

Employment Status of Sample

Status	Frequency	Percentage
Employed	337	89,9
Unemployed	35	9,3
Pensioner	-	-
Disabled	2	0,5
School	1	0,3
	375	100,0

The relatively low rate of unemployment is to be expected as the hostel

(1) Graaff, J. & Maree, J. Residential and Migrant African Workers in Cape Town. Saldru Working Paper No.12, U.C.T. Cape Town,1977,pp.5-6

houses workers for particular employers, who would be required to leave the hostel if they became unemployed.

Education

Table 5

Composition of the Sample with respect to School Education

School Standard	Frequency	Percentage
None	49	12,8
Sub A - Std 2	49	12,8
Std 3 - Std 5	121	31,6
Std 6 - Std 7	90	23,5
Std 8 - Std 9	54	14,1
Std 10 U.	12	3,1
Std 10	8	2,1
	383	100,0

Table 6

Composition of the Sample with respect to Post-School Training

Type of Training	Frequency	Percentage
Office Routine		
Sales/Clerical	2	16,7
Managerial/Administrative		
Semi-skilled	1	8,3
Skilled Manual	6	50,0
Blue-Collar Technical/ Nursing		
Teachers Training - Non-University	2	16,7
Bachelor's Degrees	1	8,3
Post-graduate Degrees		
Semi-Professional		
	12	100,0

It is evident from Tables 5 and 6 that the general standard of education of hostel dwellers is lower than that of urban household residents in Soweto and in Nyanga, Langa and Guguletu.

Only 3,13 per cent of the respondents living in hostels had some post-school training compared to 26 per cent of the Soweto sample and 12 per cent of the household residents in the Peninsula townships.

This confirms the findings of Graaff and Maree, that both borners and 10(1)b's received considerably more schooling than migrants.[1] For example, approximately 30 per cent of the household residents had reached Std 8 - 9, whereas only 14 per cent of hostel dwellers had done so. This relationship will be investigaged in detail later.

Occupation

Table 7

Occupational Distribution of the Sample in 1981

Occupation	Frequency	Percentage
High Professional	1	0,3
Executives and Administrators	-	-
Salaried Professional	-	-
Lower Executives	-	-
Semi-Professional	1	0,3
Private Owners	1	0,3
Senior Clerical	-	-
Clerical/Sales	20	5,5
Blue-Collar Technical	-	-
Supervisory	-	-
Artisans and Apprentices	2	0,6
Skilled Manual	3	0,8
Routine Non-Manual	14	3,9
Semi-skilled	22	6,1
Unskilled	299	82,4
	363	100,0

There is a higher concentration of hostel workers employed in less skilled and primarily manual occupational categories than was the case for household residents in the Peninsual townships, (69 per cent) or Soweto (59 per cent). Jobs open to contract workers are generally those which white and coloured workers,

(1) Graaff, J., and Maree, J., op. cit., p. 8.

and black workers with permanent residence rights do not want to fill or are not in sufficient numbers to fill.

Industrial Division

Table 8

Distribution of the Sample According to Industry

Industry	Frequency	Percentage
Fishing	5	1,5
Mining	5	1,5
Manufacturing	42	12,7
Electricity, Gas, Water	2	0,6
Construction	152	45,8
Commerce	49	14,8
Transport and Communication	13	3,9
Finance	4	1,2
Services	60	18,1
	332	100,0

A far smaller proportion of hostel dwellers are employed in services than is the case for household residents, and a far greater proportion are employed in construction. That the proportion in services is so much smaller is not surprising as the bulk of household respondents employed in this category are female domestics and nurses who are not included in the hostels survey. This should however not have a great influence on the occupational structure as most workers in both the services and construction categories are unskilled.

Occupational Distribution of the Heads of the Households in which the Respondents grew up

Table 9

Occupational Distribution of H.O.Hs

Occupation	Frequency	Percentage
High Professional	-	
Senior Executives	-	
Salaried Professionals	3	1,2
Lower Executives	-	
Semi-Professional	6	2,3
Private Owners	1	0,4
Senior Clerical	-	
Clerical/Sales	7	2,7
Blue-Collar Technical	-	
Supervisory and Inspectional	2	0,8
Artisans and Apprentices	-	
Other Skilled Manual	2	0,8
Routine non-manual	9	3,5
Semi-skilled	11	4,3
Unskilled	179	69,1
Farm	39	15,1
	259	100,0

Workers in the H.O.H.'generation' are more concentrated in less skilled occupations than are the respondents. A significant proportion were also either farmers or farm labourers.

Education amongst the Heads of Households in which the Respondents grew up

Table 10

School Education amongst H.O.Hs

School Standard	Frequency	Percentage
None	215	56,1
Sub A - Std 2	49	12,8
Std 3 - Std 5	56	14,6
Std 6 - Std 7	40	10,4
Std 8 - Std 9	17	4,4
Std 10 U.	2	0,5
Std 10	4	1,0
	383	100,0

The median value falls within the 'none' category whereas for the respondents it falls within the Std 3 - 5 category. It is clear that the H.O.H. generation is far more poorly education than either the respondents or the heads of households in the other surveys conducted. Only 6 per cent of the H.O.Hs have some senior secondary education compared to 19 per cent of the respondents.

4.3 Legal Status, Occupations, and Occupational Mobility

The hypothesis that permanent residents enjoy better educational and occupational opportunities can be tested firstly, by comparing the occupational distribution and mobility of permanent residents with that of contract workers and illegals, and by examining how these groups differ with respect to variables such as education, and secondly by carrying out regression analysis on the data arising from the survey of hostel dwellers, and observing to what degree, and in which way, legal status influences the other variables in the model.

In the surveys of urban households in Soweto and the Cape Peninsula Section 10(1)a workers comprised 68 per cent and 64 per cent of the samples respectively, Section 10(1)b and c workers comprised 29 per cent and 32 per cent respectively, Section 10(1) d workers 0,4 per cent and 0,9 per cent respectively, and illegals 0,7 per cent and 1,9 per cent respectively.

On the other hand in the survey of the hostels in the Cape Peninsula, Section 10(1)a workers comprised only 12 per cent of the sample, Section 10(1) b and c workers 30 per cent of the sample, Section 10(1)d workers 46 per cent, and illegals 10 per cent. Some of the differences in the results between the urban household surveys and the hostel survey with respect to occupations, education, etc. is therefore likely to be due to the legal status of the respondents, and such a comparison can give some insight into the influence of legal status. Other possibly important influences such as sex, and age, are not initially taken into account in this analysis.

Table 11

Comparative Occupational Structure

Occupation	Percentage			
	Soweto	Peninsula Townships (Households)	(Hostels)	National Studies (1979)
High Professional	0,1	0,2	0,3	0,1
Executive and Senior Administrative	-	-	-	0,1
Salaried Professional	-	0,4	-	0,2
Lower Executives	0,5	0,2	-	-
Semi-Professional & Creative	5,5	5,2	0,3	2,5
Owners & Executives in Private firms	0,3	1,2	0,3	0,3
Senior Clerical/White Collar Technical	2,3	0,4	-	0,2
Clerical/Sales/Representatives	6,8	10,3	5,5	2,6
Blue-Collar Technical	5,7	3,1	-	1,7
Supervisory & Inspectional	1,3	1,3	-	1,3
Artisans and Apprentices	0,5	0,8	0,6	5,5
Other Skilled Manual	5,4	1.0	0,8	-
Routine Non-Manual	19,7	10,3	3,9	7,0
Semi-Skilled	28,7	11,3	6,1	19,8
Unskilled	23,2	54,6	82,4	58,9
Total[1]	100,0	100,0	100,0	100,0

It can be seen from Table 11 that the household residents interviewed in both Soweto and the Peninsula townships are considerably more highly skilled than blacks employed outside agriculture and domestic service as a whole.

(1) Totals may not add to 100,0 due to rounding.

This is particularly so in Soweto where it is apparent that workers are generally employed in more skilled occupations than their counterparts in the Peninsula townships.

Conversely it is apparent that hostel dwellers (predominantly contract workers) are more highly concentrated in the unskilled manual category than is the case for the wider reference group or for the household residents in Soweto and the Peninsula townships. Although this is the largest single employment category for the household residents in the Cape townships as well, a significant proportion of respondents in this survey were employed in occupations 'higher' up the occupational ladder (31 per cent in non-manual occupations compared to 10 per cent of hostel dwellers). This association between legal status and job category is also evident from the study in the Peninsula by Graaff and Maree.[1] They found that about 71 per cent of the migrants and 63 per cent of the 10(1)b's were unskilled whereas only 55 per cent of the borners were.[2]

The national figures thus generally fall beween the two extremities of household residents and hostel dwellers and the discrepancy between the national figures and surveys is to some extent 'built-in' to the surveys themselves.

Thus it can be expected, for example, that if hostels had been included in the Soweto survey the occupational structure would approximate the national figures more closely than is the case.

It is also clear that the 'occupational mix' differs in each of the sectors of the economy.[3] Moreover, the relative size of these sectors differs geographically and the demand for labour from in the various occupational categories, will to some extent vary accordingly in the regions studied.[4]

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(1) Graaff, J. and Maree, J., op. cit.,

(2) ibid., p. 10.

(3) See Simkins, C.E.W., and Hindson, D., op. cit., pp. 21-24.

(4) See Chapter 3, Section 2.1.

A comparison of the three samples also illustrates the effect of legal status on education achievement.

Table 12

Comparative Educational Level of the Samples

Percentages

School Standard	Cape Hostels S10(1)a,b,c	Cape Hostels S10(1)d and illegals	Cape Households	Soweto Households
None	7,6	16,0	3,5	4,7
Sub A-Std 2	9,4	14,6	5,0	6,4
Std 3-Std 5	26,4	35,9	17,9	17,6
Std 6-Std 7	26,4	22,6	30,6	26,3
Std 8-Std 9	20,8	8,5	31,0	30,2
Std 10	9,4	2,4	12,0	14,8
Totals	100,0	100,0	100,0	100,0

The median level of education for contract workers and illegals in the hostels falls within the Std 3 - Std 5 category, whereas for hostel dwellers with S10(1)a, b or c rights it falls within the Std 6 - Std 7 educational category. The median level of education for both groups of household residents also falls in this category. Only 33 per cent of the contract workers and illegals living in hostels had some secondary school education compared to 57 per cent of the permanent residents living in hostels, 74 per cent of the household respondents in the Cape and 71 per cent of those in Soweto. These results are also supported by those of Graaff and Maree which showed that only 17 per cent of the migrants in their sample had attained some secondary school education compared to 50 per cent of the borners and 38 per cent of the 10(1) b's.[1]

From Table 12 it appears that hostel dwellers with rights to permanent residence in an urban area are less well educated than household dwellers. The reason for this is that while only 28 per cent of

(1) ibid., p.8

the permanent residents living in hostels are borners (who appear to receive better education than 'non-borners')[1], 68 per cent of the sample in Soweto and 64 per cent of the household sample in the Peninsula were 'borners'.

Brandel-Syrier indicates that as early as 1953, the inspectorate of Bantu education had come to the conclusion that with regard to the general school situation, the difference between the rural-born and the urban-born African was greater than that between urban-born Whites and urban-born Blacks.[2]

Legal status thus appears to be an important determinant of both educational attainment and the level of skill or hierarchical status of the respondent's occupation. The problem is that one cannot determine from this descriptive analysis to what extent the influence of legal status on employment is mediated by educational attainment, and indeed whether legal status has any influence on occupations independently of its influence on education. In order to evaluate this, regression analysis will be undertaken in the following section.

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(1) If the 'borners' in hostels are taken separately the educational distribution is: 'None'(4,4%), 'Sub A-Std 2'(2,2%),'Std 3-Std 5' (13,3%), 'Std 6-Std 7'(22,2%), 'Std 8-Std 9'(31,3%) and 'Std 10' (26,7%), i.e. the median level now falls in the Std.8-Std.9 category.

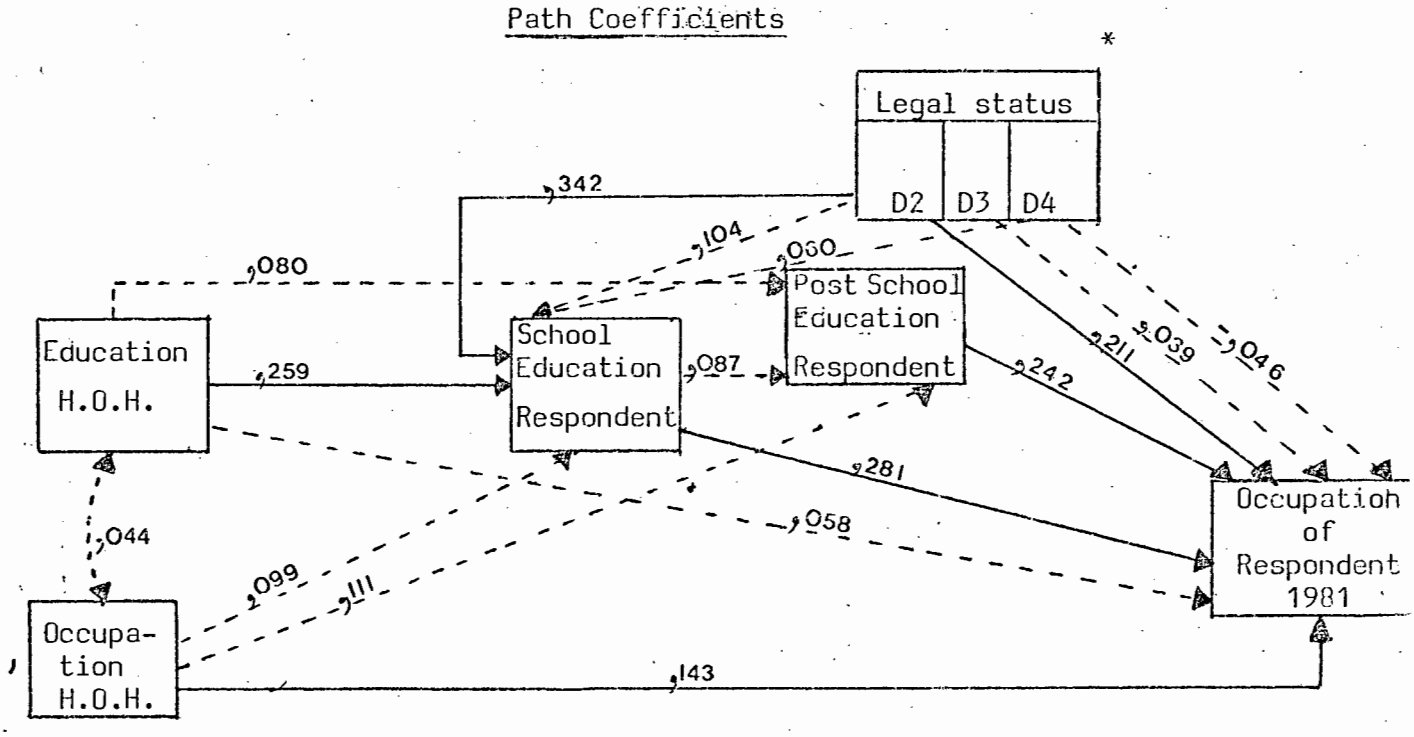
(2) Brandel-Syrier, M., op. cit., p.78.

4.4 The Determinants of Mobility

4.4.1 Regression Analysis and Path Models

Figure 7

Path Coefficients



*Dummy variables are employed in order to include the variable 'legal status' in the regression analysis. This procedure is followed as legal status cannot be assigned values on an interval scale. The association between contract workers and the other variables is taken to be zero. D2, D3 and D4 are the dummy variables representing respectively permanent residents by birth; permanent residents through 10 years' legal residence or 15 years continuous employment or the dependants of permanent residents; and illegals. The influence of these dummy variables on the other variables in the regression equations is then interpreted relative to the zero association assumed between contract workers and the other variables in the equations.[1]

(1) For a discussion of dummy variables see Johnston, J., Econometric Methods. McGraw-Hill, Kogakusha. 1963, pp. 176-186, and Hope, K., op. cit.

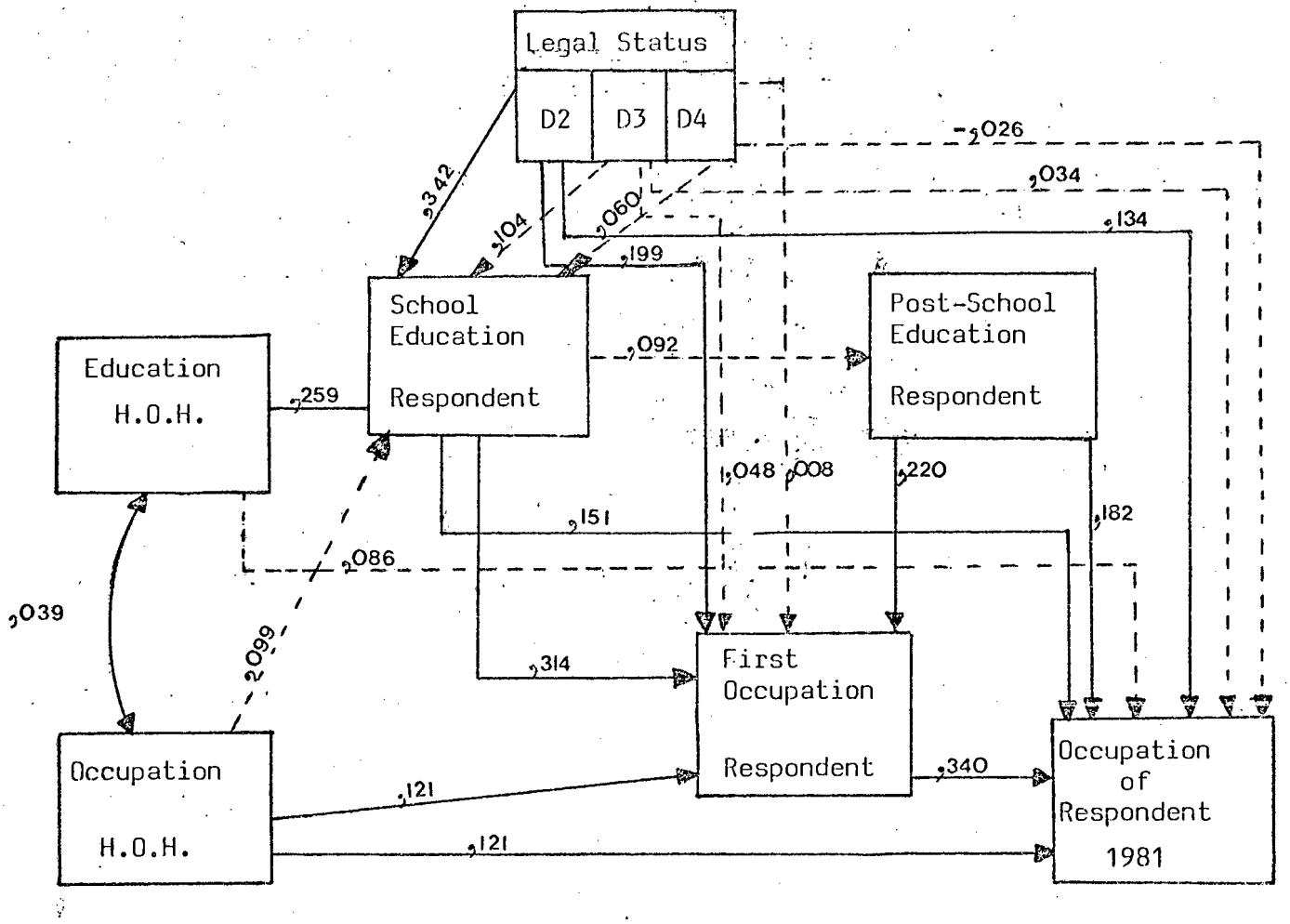
Figure 7 shows that legal status has a significant influence on the respondent's level of school education and occupation. Given that the values of the dummy variables are relative to zero which represents contract workers, it is clear that D2, representing permanent residents by birth, is strongly and positively associated with school education (i.e. there is a strong positive correlation between permanent residents and school education relative to the correlation between contract workers and school education). The correlations between D3 and school education, and D4 and school education are not statistically significant but are nevertheless included (dotted lines) as they are of interest. They suggest that both Section 10(1)b and c workers and illegals might be more highly correlated with school education than are contract workers. The association between D4 (illegals) and school education is however very small.

With respect to the association between legal status and the respondent's occupation independent of the influence of school education, it can be seen that D2 (permanent residence by birth) is again most positively associated with occupations, followed by a very small correlation between D3 and occupations, and a small negative correlation between D4 and occupations. (D3 and D4 are however again not statistically significant according to T-test criteria).

It appears from the above, that permanent residents in an urban area, particularly those born in the urban area, are 'favoured' with respect to employment on the occupational hierarchy relative to contract workers. It appears that illegals might be at a disadvantage relative to contract workers (and therefore permanent residents), but the interaction is not significant and therefore no definite conclusion can be drawn.

Post-school education is not significantly influenced by any of the other variables judging from T-test criteria, which is probably due to the fact that so few respondents in the sample had any post-school education.

Figure 8 - Path Coefficients



In order to create a more complete model, the respondent's first occupation is included. From Figure 8 it can be seen that the respondent's first occupation has the greatest single influence on subsequent employment. As in the other two surveys the respondent's first occupation is most strongly influenced by prior educational attainment. However, in the above model the respondent's first job, and job in 1981, can be seen to be strongly influenced by legal status as well. Furthermore, legal status strongly influences the level of school education attained, and must therefore be recognised as a powerful determinant of the respondent's occupational position and of intra-generational mobility.

The occupation of the H.O.H. has a direct influence on both the respondent's first job, and occupation in 1981. It has been noted that hostel dwellers tend to originate from households in which the head was more likely to be employed in an unskilled occupation or manual occupation than were the H.O.Hs for respondents in the other two surveys. Similarly these H.O.Hs were poorly educated as

compared to those of respondents in the other two surveys. The direct influence of the H.O.H's occupation on that of the respondent's thus reflects the transmission of the disadvantaged circumstances of the H.O.H; and of course the respondents are themselves more likely to be poorly educated and employed in lower status occupations.

In combination with the direct influence of legal status these background factors tend to lock the hostel dweller (particularly the contract worker), into the lower economic stratum, a condition which he in turn is likely to pass on to his children.

Legal status can therefore be identified as one of the primary elements determining closure in the 'upper stratum' of African society - access to this stratum being significantly dependent on permanent urban residence rights. As such it is a strong element contributing to stratification in African society in South Africa.

Given that occupations higher up on the occupational scale are effectively 'closed off' to contract workers, one would expect to find less upward mobility amongst hostel dwellers than among household residents (most of whom have permanent residence rights).

4.5 Inter-generational Mobility amongst Hostel Dwellers

It is clear from the ratios of observed to expected frequencies on the assumption of independence (Table 13) that there is less inter-generational mobility amongst hostel dwellers than among household residents.

Upward mobility occurs only from the semi-skilled into the low-non-manual categories and (if it can be classed as such), from the farm category into the unskilled category. Downward mobility is more common, occurring from the high-non-manual category into the non-manual, low non-manual, and semi-skilled categories, and from the low non-manual into the unskilled category.

If these ratios are calculated using similarly aggregated categories for household residents in the Cape Townships, it can be seen that there is upward mobility (in numbers exceeding what would be expected), from the semi-skilled, skilled manual and non-manual categories into the high non-manual category. There is also upward mobility from the semi-skilled and skilled manual categories into the non-manual category, from the farm and unskilled categories into the skilled manual category, from the farm into the low non-manual category, and from the farm into the unskilled category. Downward mobility occurs from the high non-manual into the non-manual, low non-manual, and semi-skilled categories, from the non-manual into the low non-manual category, from the skilled manual into the semi-skilled manual category and from the low non-manual into the semi-skilled category.

Only 7 per cent of the hostel dwellers were upwardly mobile from one generation to the next as compared with 27 per cent of the Soweto sample and 23 per cent of the household residents in the Peninsula townships. On the other hand approximately 6 per cent of hostel dwellers were downwardly mobile compared to 10 per cent in Soweto and 11 per cent of household residents in Peninsula townships. The implication is that contract workers are less mobile than permanent residents, their legal status itself being a barrier to upward mobility.

Table 13 Mobility from Head of Households' Occupation to Occupation in 1981 for Hostel Dwellers in Nyanga, Langa and Guguletu - Ratios of Observed Frequencies to Frequencies Expected on the Assumption of Independence

Respondents' Occupation - 1981

H.O.H. Occupation	High Non-Manual	Non-Manual	Super-visory	Skilled Manual	Low Non-Manual	Semi-Skilled	Un-skilled
High Non-Manual	–	5,64	–	–	5,64	2,02	0,40
Non-Manual	–	9,67	–	–	-	-	0,52
Supervisory	–	–	–	-	-	-	1,20*
Skilled Manual	–	–	–	–	-	9,07*	0,60*
Low Non-Manual	–	–	–	–	2,82	-	1,07
Semi-skilled	7,70*	–	–	–	2,30	1,65	0,88
Unskilled	0,97*	0,77	–	1,46*	0,73	0,93	1,03
Farm	–	–	–	–	0,65	0,93	1,11

* Denotes categories in which the frequencies were too small for reliability.

4.6 Intra-generational Mobility

It is apparent from Table 14 that once hostel dwellers become employed in any particular occupational category they tend to remain in that category. This is indicated by the fact that the indices in the principal diagonal are in all cases significantly greater than the other indices in its row.

This finding is similar to that for household residents in the Cape townships and Soweto. However, the incidence of underlined values off the principal diagonal (which would represent excessive upward or downward mobility) are far fewer for the hostels survey, and such underlined values, where they occur, are closely clustered around the principal diagonal which indicates that respondents are seldom mobile over a 'long-distance'.

The results of the hostels survey shows upward mobility in numbers exceeding what would be expected on the assumption of independence, from the low non-manual into the non-manual category, and from the semi-skilled into the skilled category. There is no downward mobility in excess of what would be expected. By comparison, the household surveys in the Cape townships show upward mobility from the supervisory into the non-manual category, from the skilled manual into the high non-manual and non-manual categories, from the low non-manual into the supervisory and skilled manual categories, and from the semi-skilled into the non-manual, and supervisory, categories. Downward mobility occurs in numbers exceeding expectations from the non-manual into the skilled-manual category, and from the supervisory into the skilled manual and semi-skilled categories.[1]

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(1) Although the frequency in the supervisory category was larger than the given cut-off point for inclusion, it was just so and thus this result may not be very reliable.

Table 14 Mobility from First Job to Occupation in 1981 for Hostel Dwellers in Nyanga, Langa and Guguletu - Ratios of Observed Frequencies to Frequencies Expected on the Assumption of Independence

Respondents' Present Occupation - 1981

Respondents' First Occupation	High Non-Manual	Non-Manual	Super-visory	Skilled Manual	Low Non-Manual	Semi-skilled	Un-Skilled
High Non-Manual	—	6,21*	—	—	—	—	0,81
Non-Manual	—	16,43*	—	—	—	—	0,14
Supervisory	—	-	—	—	—	—	1,22*
Skilled Manual	—	-	—	67,11	—	—	-
Low Non-Manual	9,26*	1,55	—	5,59	10,74	—	0,41
Semi-skilled	—	-	—	4,79	1,84	9,11	0,35
Unskilled	—	0,07	—	-	0,63	0,73	1,12
Farm	-	-	—	-	-	-	-

*Denotes categories in which the frequencies were too small for reliability.

This investigation into inter- and intra-generational mobility shows that hostel dwellers (generally contract workers) are far less occupationally mobile than are household residents (predominantly permanent residents by birth). Unfortunately the size of the sample precludes an analysis of mobility for each legal status category which would enable a clearer analysis.

Legal status thus emerges as having a powerful influence on the occupational opportunities available to work seekers, and to the chances of upward mobility from initial occupation. Where individuals have no rights to permanent residence in an urban area, not only will they be more likely to be employed lower down on the occupational hierarchy than a permanent resident but the chances of being promoted are far slighter.

It appears therefore that blacks with permanent residence rights in urban areas, are and will increasingly move into more skilled occupations where shortages occur. Similarly this group is likely to continue to benefit from improved education and training (particularly the 'borners') which prepares them for occupations referred to earlier as 'middle class' and skilled manual. Workers without these rights will continue to be employed primarily in less skilled occupations. They are also likely to be the ones to bear the brunt during periods of high unemployment when they may be removed from urban areas to their respective homelands.

The hypotheses of the 'conventionalists' vis-a-vis economic growth and the consequent need for a more skilled and geographically and occupationally mobile labour force and the implications thereof, thus seem to be confirmed by the experience of blacks with permanent residence rights in urban areas. Conversely, the hypothesis of the 'revisionists' that economic growth is dependent on the continued supply of cheap black labour which does not necessitate political change seems to be supported by the experience of contract workers. Legal status thus forms the fulcrum around which these dual demands can continue to be met in a way which does not challenge the essence of the political dispensation i.e. separate development.

CHAPTER 5

NATIONAL AND INTERNATIONAL COMPARISONS

5.1 National Comparisons

A greater proportion of the respondents in the Soweto survey are upwardly mobile (both inter- and intra-generationally) than is the case in the Peninsula townships. Hostel dwellers are the least mobile and are relatively highly concentrated in the unskilled employment category.

A barrier existed in all the surveys to upward mobility from manual to non-manual occupations. It was again least impermeable in Soweto where approximately 35 per cent of respondents with manual origins were employed in non-manual occupations as compared to 26 per cent of household residents in the Peninsula townships and 8 per cent of hostel dwellers. When all the occupations are aggregated into two groups, manual and non-manual, there is no mobility in excess of what would be expected on the assumption of independence across the manual/non-manual divide. (See Tables 1b and 2b of Appendix 4).

Turning attention to the path models it can be seen that the interactions between the variables are in most cases greater in Soweto than in the Peninsula townships. This suggests that a greater degree of the variance in occupations can be explained by the variables included in the model in Soweto. This is not surprising as it is apparent that the Coloured Labour Preference Policy has an additional effect on employment in the Peninsula, but this effect is not included in the model.

A further point which requires emphasis is that the level of school education was very similar for respondents in the Soweto survey and household respondents in the Cape Peninsula survey. However, the respondents in the Peninsula were on average employed in less skilled occupations than their Soweto counterparts (41 per cent of the Soweto sample were employed in non-manual occupations compared to 31 per cent in the Peninsula, while 29 per cent of the manual workers were

unskilled in Soweto compared to 69 per cent in the Peninsula.) Furthermore as discussed above, respondents in Soweto were more mobile. This suggests that occupational opportunities and mobility among blacks in the Cape is more demand constrained than in Soweto. In other words it is apparent that there is a significant supply of labour with basic education which could be employed in more skilled manual and non-manual occupations in the Cape (as is evidenced in Soweto), but who are not so employed because of the reservation of these employment categories for Coloureds. A further implication is that in so far as demand is also constrained by legislation, custom, prejudice, etc. in Soweto, the available manpower with the requisite basic education for employment in or training for more skilled occupations is being underutilised and is less mobile than would otherwise be the case

5.2 International Comparisons

A study of mobility in any one specific country or region suffers from an obvious setback. This is that there is no uniform set of measures in relation to which the observations can be compared. It is therefore difficult to evaluate for example whether the observed rate of mobility is high or low. Where there is a relative measure with which the observations can be compared, evaluation becomes far more simple. International comparisons provide such a measure.

There are numerous problems in making international comparisons. For example, some studies include only males while others include both males and females; similarly some compare the subject's occupation with that of the father while others make the comparison with the household head irrespective of sex. A further problem is that few of the international studies use the same occupational categories or ranking of occupations. The difficulties faced with a single study are thus compounded when comparing such a study with other research projects.

5.2.1 Occupational Mobility

In Table 1 data are reported of the upward mobility of sons of fathers in manual occupations in various countries and cities.[1] At the end comparative figures for Soweto, Nyanga, Langa and Guguletu are added.

The Table excludes mobility within the manual category (e.g. from semi-skilled to skilled) and within the non-manual category (e.g. clerical to professional).

The highest rate of inter-generational mobility from manual into non-manual categories is in France. The lowest rate for the countries under consideration is Italy (8,5%) which is only slightly above the figure for hostel dwellers. Household residents in Soweto are relatively highly mobile while those in the Peninsula townships are more mobile than subjects in only a few of the other countries. It is evident that national figures are lower than figures for purely urban areas and the mobility rate for household residents in the Peninsula townships is considerably lower than those for all the comparative urban studies with the exception of St. Martens Latem. Upward mobility among hostel dwellers is generally far lower than the rates calculated by Miller.

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(1) The Table is reproduced from Miller, S.M., "Comparative Social Mobility" in Coxon, A.P.M. and Jones, C.L., op. cit., p.83

Table 1

Non-Manual Sons of Manual and Working-Class Fathers

National Data	Manual into Non-Manual %
Denmark	24,1
Finland	11
France I	30,1
France II	29,6
Great Britain	24,8
Hungary	14,5
Italy	8,5
Japan	23,7
Netherlands	19,6
Norway	23,2
Peurta Rico	14,3
Sweden	25,5
U.S.A. I	28,8
U.S.A. II	28,7
West Germany	20,0
Urban Data	
Australia (Melbourne)	24,1
Belgium I (St-Martens Latem)	5,7
Belgium II (Mont-Saint-Guibert)	30,9
Brazil (Sao Paulo)	29,4
India (Poona)	27,3
Soweto	27,23
Nyanga, Langa, Guguletu (households)	22,78
Nyanga, Langa, Guguletu (hostels)	7,08

Given that some variations would occur because the studies are not strictly comparable, and that the countries examined are at different stages of industrialisation, the similarity between the figures for household residents in this study and workers in West Germany, Hungary, Puerto Rico and Japan are remarkably similar.

Table 2[1] presents the data on inter-generational mobility into working class occupations from non-manual 'origins'. It can be regarded as downward mobility although as pointed out earlier this is problematic especially where people have moved from low-non-manual to skilled manual occupations. Downward mobility within either the manual or non-manual categories themselves is ignored.

The most notable implication of this Table is that in many countries over 25 per cent of the sons of non-manual families end up in manual occupations. With the exception of Puerto Rico, non-manual downward mobility is almost entirely into industrial occupations rather than farm labour.

The rate of downward mobility is considerably lower in the domestic surveys than in the National studies. They are however higher than the corresponding figures for St-Martens-Latem. The relatively low rate in the domestic studies is not surprising given the way in which downward mobility was defined. It was shown earlier in this study that employment in manual particularly unskilled manual occupational categories has been declining relatively in S.A. since 1969, while employment in non-manual occupations has been growing. One would therefore not expect as high a rate of downward mobility as in more industrialised and developed countries where the relative sizes of the manual and non-manual categories are likely to be more stable.

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(1) ibid., p. 87

Table 2

Manual/Working-Class Sons of Non-Manual Fathers

National data	Non-Manual into Working-Class.[1] %
Denmark	a
Finland	a
France I	18,2
France II	25,9
Great Britain	a
Hungary	25,8
Italy	a
Japan	a
Netherlands	a
Norway	27,9
Puerto Rico	35,6
Sweden	25,7
U.S.A. I	18,6
U.S.A. II	a
West Germany	28,2
Urban Data	
Australia (Melbourne)	a
Belgium I (St-Martens Latem)	7,1
Belgium II (Mont-Saint-Guibert)	a
Brazil (Sao Paulo)	a
India (Poona)	a
Soweto	10,41
Nyanga, Langa, Guguletu (Households)	10,97
Nyanga, Langa, Guguletu (Hostels)	5,91

a - unavailable

(1) The figures for Soweto, Nyanga, Langa and Guguletu were included in this column as none of the respondents were farm labourers.

Miller indicates that most mobility from non-manual into working-class and manual employment in the countries covered, is into the skilled labour category and from the lower non-manual occupations[1]. It is therefore generally 'short-distance' mobility from 'boundary' occupations

Of the countries covered by Miller, only France and the U.S.A. have higher rates of upward mobility than downward mobility. In the studies conducted in Soweto, Nyanga, Langa and Guguletu, the rate of upward mobility was in all cases greater than the rate of downward mobility. Naturally, the more concentrated the 'parental' generation at lower occupational levels, the more scope there is for inter-generational upward mobility. Miller sums up by indicating that high rates of up-mobility may be associated with low or high rates of down-mobility. Similarly, high rates of down-mobility may be associated with high or low rates of up-mobility.

5.2.2 Indices of Association

In the previous chapter the problems associated with analysing percentage tables were discussed and use was made of the index of association in order to refine the results. Miller calculated the indices of association for countries in his study which are reproduced in Table 3.[2] A value of 1 indicates perfect mobility, i.e. that the sons/respondents are proportionally represented in the father's/H.O.H's occupation; a value greater than 1 shows that sons are over-represented in the father's occupational category, while a value below 1 indicates less than proportional representation.

There are again several problems in using indices of associations for international comparisons. Two or more countries may have similar indices of association but in some there may be considerable upward mobility while in others there may be considerable downward mobility. Furthermore, in order to produce comparability more

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(1) ibid., p. 88.

(2) Miller, S.M. (b) ibid., p. 54.

detailed occupational categories (e.g. clerks, professionals, blue-collar technical workers) are grouped into a few basic categories which serves to make the analysis cruder as the occupations within each basic category are treated as having a unity which they actually do not have.[1] An advantage arising from this procedure is that this grouping helps to eliminate spurious differences in rates of mobility between countries caused by the varying numbers of categories employed in each study.[2] A further problem arises with the definition of the basic categories. For example, the definition of elite occupations for the countries in Miller's study is not the same in all cases.[3] In making comparisons he is therefore not studying movement into the same elite occupations, but occupations which have the same 'elite standing'. These 'transnational' elites are not a homogeneous group and therefore the variations in advantage among them may be considerable.

In creating comparative categories for Soweto, Nyanga, Langa, and Guguletu, the classification used by Simkins and Hindson[4] is followed with one alteration: professionals and semi-professionals become reclassified as 'Elite I' whereas they were regarded as part of the petty bourgeoisie in Simkins' study.

Table 3 reproduces the indices of association for the countries in Miller's study[5] to which are appended comparative results for Soweto, Nyanga, Langa and Guguletu.

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(1) Ibid., p. 21.

(2) Ibid., p. 21.

(3) See the statistical appendix, ibid., pp. 66-75.

(4) Simkins, C.E.W., and Hindson, D., op cit., p. 8.

(5) op cit., p. 54.

Table 3

Indices of Association[1]

	Elite I and II	Middle-[1] classes	Working[1] Classes
Australia (Melbourne)	x	x	x
Belgium I (St.Martens-Latem)	17,893	3,278	1,318
Belgium II (Mont-Saint.Guibert)	x	x	x
Brazil (Sao Paulo)	4,179	1,613	x
Denmark	9,559	1,485	x
Finland	x	x	x
France I	5,714	1, 821	2,317
France II	8,378	1,811	1,791
Great Britain	5,981	1,442	x
Hungary	x	x	1,566
India (Poona)	10,663	1,672	x
Italy	3,931	2,725	x
Japan	3,277	2,179	x
Netherlands	4,805	1,985	x
Norway	x	x	1,518
Puerto Rico I	2,561	3,100	1,506
Puerto Rico II	2,427	2,541	1,338
Sweden	8,122	1,846	1,287
U.S.A. I	3,295	1,645	x
U.S.A. II	x	x	x
U.S.S.R. (emigrés)	2,155	1,672	x
West Germany	11,087	1,963	1,413
Soweto	3,755	1,318	1,069
Nyanga,Langa,Guguletu (Households)	1,505	1,088	1,034
Nyanga,Langa,Guguletu (Hostels)	x	2,822	1,035

x = not available.

1) See Glass' study in Chapter 1 for an explanation of this concept.

It is evident from the Table that sons/respondents are more likely to be over-represented in the Elite I and II category than in any other category. This reconfirms the finding earlier in this paper that occupational inheritance tends to be highest in occupations requiring higher levels of education. The indices of association in the Elite I and II category are similar for Soweto, the U.S.A., Italy and Japan. The indices are lower in Puerto Rico and the U.S.S.R. than in Soweto, and higher in the balance of the countries. The index of association is lowest in Nyanga, Langa and Guguletu.

The variation in the indices of association for the middle class category is smaller, ranging from a value of 3,278 in Belgium to 1,088 in households in the Peninsula townships.

Occupational inheritance is lower in the Working Class category in Soweto and the Peninsula townships than in any of the countries covered in Miller's study. This could be due to the fact that this category may have been in a more rapid relative decline here than in the other countries studied. A larger proportion of the respondent's generation thus move upwards into the other categories than is the case in the other countries.

It appears therefore that there is greater fluidity in excess of what would be expected between the categories in the townships studied, than in the countries in Miller's study. This is not surprising as it is likely that there are greater structural changes occurring in the South African economy in turn resulting in a changed pattern of demand for different types of labour[1] than is the case in several of the other countries studied, which are generally more developed.

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(1) In Soweto 7,6 per cent of the H.O.H. generation were employed in the Elite category, 16,8 per cent in the Middle-class category and 75,6 per cent in the working-class category compared to 6,5 per cent, 30,7 per cent and 62,8 per cent respectively for the respondents generation.
In households in the Peninsula townships the corresponding figures were 7,59, 12,05, and 80,38 per cent respectively for the H.O.H. generation and 7,38; 22,57 and 70,04 per cent respectively for the respondents generation.

5.2.3 A comparison of the Determinants of Mobility in Soweto and the U.S.

Attention will now be paid to a brief comparison of the determinants of mobility in Soweto with those in the U.S.A.

Table 4

Comparative gross correlations between variables in the U.S.A., Soweto, Langa, Nyanga, and Guguletu (households and hostels)

Gross Correlation			
H.O.H. Occupation and Respondent's occupation			
U.S.A.	Soweto	Peninsula Townships (Households)	Peninsula Townships (Hostels)
0,4	0,3	0,2	0,2
Respondent's education and occupation			
0,6	0,6	0,4	0,4
Respondent's education and first job			
0.4	0,5	0,4	0,4
Respondent's education and H.O.H. occupation			
0,4	0,3	0,2	0,16

These figures show a great deal of similarity between the zero-order correlation calculated by Blau and Duncan, and Duncan and Hodge for the U.S.A.[1] and those calculated for the Soweto sample. The exception is the association between the H.O.H's occupation and respondent's education where the zero-order correlation is higher in the U.S.A. These figures may be more meaningful to the reader if expressed as percentages. For example, 14 per cent of the variance in respondents occupations in the U.S.A. can be attributed to the gross influence of the H.O.H's occupation compared to 9 per cent for respondents in Soweto. Similarly, 30 per cent of the variance in the respondents occupations in the U.S.A. can be attributed to the gross influence of education compared to 34 per cent for Soweto respondents.

(1) See Chapter 1. Also see Duncan, O.D., and Hodge, R.W. op. cit., and Blau, P.T., and Duncan, O.D., op. cit.

One must be careful not to draw the wrong conclusions from these results. Although the determinants of mobility and occupational status appear to be similar for both the U.S.A. and respondents in Soweto, differences are controlled when making these calculations. For example, the correlation between occupation and education is calculated while differences in these variables are controlled for. Thus although the associations are strikingly similar, Americans will on average come from homes in which the head is better educated than the household head of respondents in Soweto, and where the head is employed in a more skilled and remunerative occupation. The subjects themselves are on average likely to be better educated and employed in more skilled and well-paid jobs in the U.S. than in Soweto. (Only 8,1 per cent of the American population were employed as unskilled and farm labourers in 1962, while a further 42 per cent were employed in skilled and semi-skilled occupations).

The correlations suggest that were demand and supply conditions for Soweto residents to resemble those in America, one could expect to see similar patterns of mobility emerging and a change in the occupational structure until it resembled that in the U.S. more closely.

The path models also reveal broad similarities between the relative importance of the determinants of occupational mobility in the U.S. and those in the surveys conducted here. An individual's social origins are found to exert a considerable influence on occupational opportunities, but education and early occupational experience exert a more powerful influence on such opportunities.[1] In all cases the influence of social background is strongly mediated by education which in turn (together with first job) exerts the strongest direct effect on occupational achievements.

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(1) See Blau, P.T., and Duncan, O.D., op. cit. p. 170 for the U.S. path model.

A class boundary was apparent in the inter-generational as well as intra-generational mobility matrix, which divided manual from non-manual occupations. In the U.S., Blau and Duncan found two class boundaries which divided white-collar from blue-collar occupations, and blue-collar from farm occupations.[1] These boundaries (in the U.S.) were found to restrict downward mobility between virtually any two categories below the level expected on the assumption of independence, although they permit upward mobility in excess of this level.

The most interesting result of these comparisons was the striking degree of similarity found both in the proportion of upwardly mobile subjects in Soweto and the U.S.A. and in the strength of the determinants of this mobility. This result is somewhat startling given that in Soweto one is studying a community, the occupational mobility of which one might expect to be constrained by a myriad of restrictions, both legislated and customary. It should be reiterated here that differences were controlled in many of the statistical calculations and that high rates of mobility must not be equated with equality or fairness in allocation of rewards. "Freedom of movement is equality in the one sense of access to advantages and perquisites, but not in the sense of the absence of pronounced differentials in advantages."[2]

There is nevertheless, as indicated in Section 1.3 a fundamental difference between a stratification system with high mobility and one with low mobility. The first perpetuates a structure of differential positions but not their inheritance, the latter perpetuates both.

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(1) ibid., p. 420

(2) Miller, S.M., op. cit., p.4.

Reference to the problem of skilled labour shortages (briefly introduced in Chapter 1) has become increasingly common in the rhetoric of academics, journalists, industrialists and politicians alike[1]. This reflects growing concern through the 1960's and 1970's.

The growth of the South African economy during the 1960's was extremely rapid, the average annual rate of growth being nearly 7,0 per cent between 1962 and 1966. As discussed in Chapter 2, this initiated rapid and significant changes in the demand for labour which is evidenced by the changes in the occupational structure in this and the ensuing period. Shortages in certain occupations were exacerbated, and by 1973 were greatest in the professional, skilled manual (artisans and apprentices) and blue-collar technical categories.[2]

Partially as a consequence of this, black mobility into more skilled occupations which had generally been reserved for whites, occurred at an increasingly rapid rate. Nevertheless several commentators predicted that under the existing conditions, shortages of skilled labour would be likely to grow and to have dire consequences for the country's economic growth rate[3]. "....it is clear that South Africa will not be able to realise its development potential and offer all its people an acceptable standard of living if the country persists in trying to recruit its high level manpower from the white population group"[4].

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(1) See a) Meth, C. "Shortages of skilled labour power and capital restructuring in South Africa". (African Studies Seminar Paper, 1981, Unpublished).

b) Drummond, E.P. "Professional education and industrial training in South Africa" in Manpower and unemployment in South Africa, Report of the Tenth Economic Congress, A.I.E.S.E.C., 1977.

c) Kane-Berman, op. cit., p. 188.

(2) Department of Labour, Manpower Survey, April 1973.

(3) See for example: Parsons, J.A. "Manpower needs for the future", (Unpublished), quoted in S.A. Institute of Race Relations, A Survey of Race Relations in South Africa 1977, pp. 229-230.

Terblanche, S.S. An analysis of the macro manpower demand and supply situation (1977 to 1987) in the R.S.A.: aid to manpower planning at organisational level. H.S.R.C., 1981.
Drummond, E.P., op. cit., p. 40.

(4) Department of Manpower Utilisation, National Manpower Commission Report on Highlevel Manpower in South Africa, Report 1/80, 1980, p. viii.

CHAPTER 6

THE MACRO-MANPOWER SITUATION 1980-1990 AND CONCLUDING REMARKS

In this chapter an attempt will be made to investigate the demand for and supply of black labour with varying levels of educational attainment, and to project the emergent trends to 1990. This should provide a basis on which to develop expectations of the manpower situation and more particularly the skilled labour problem in the forseeable future.

6.1 The Supply of Urban Black Labour

In this section projections will be made of the stock of education of the African workforce between 1970 and 1990. Concern is with the urban black workforce and calculations are undertaken for this sector only and for the ten cohorts between the ages of 15 and 64 only. The methodology is based on that of Simkins who performed similar projections for the Western Cape[1].

The method depends on two assumptions. Assumption 1 is that people get all the primary and secondary schooling they are going to get by the age of 20. This is not absolutely true but it seems that the assumption will not lead to serious error. Secondly it is assumed that mortality does not vary with educational level within a specific cohort. Thus, for example, the 20-24 age cohort is assumed to have the same distribution of educational levels within it in 1980 as it will have 10 years later (when it will have become the 30-34 year age cohort) although the total size of the cohort will have diminished due to mortality. Again, although the assumption does not necessarily hold it is unlikely to introduce serious error.

The two assumptions enable one to take the distribution of educational levels for all cohorts aged 20 and over in 1970 from the 1970 Population Census. Thedistribution for the other cohorts must be calculated bearing in mind the output of the educational system between 1970 and 1990. This procedure is complicated and lengthy to explain and since this is done elsewhere it is not undertaken here.[2]

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(1) Simkins, C.E.W. The Structure of Labour Supply In the Western Cape: Some Expectations of the Labour Situation in the year 1990 and the year 2000. Saldru Working Paper No 42, 1981, pp. 7-11.

(2)See Simkins, C.E.W. ibid. pp. 8-10.

Once these distributions are known the educational stock of the urban black population between the ages of 15 and 64 can be calculated for 1980 and projected for 1990. The raw data for 1980 are obtained from Simkins' population figures for 1980[1] and for 1990 from Sadie's population projections[2] (It is assumed that in the urban areas the 1990 age:sex distribution is the same as that calculated by Simkins for 1980 and that the proportion in the total is the same).

The results of these calculations are summarised in Tables 1 and 2. They are presented in detail in Table 1-10 of Appendix 7.

Table 1

Stock of education among the urban black population aged 15-64 for 1970, 1980 and 1990 (by sex).

Year	Educational Level N		VI		VII		VIII		IX		X		T	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
1970	81,07	70,83	10,51	15,37	2,64	4,57	3,05	5,58	1,45	2,01	1,29	1,65	100	100
1980	74,35	61,14	12,09	16,65	3,74	6,50	4,57	10,13	2,20	2,38	3,05	3,19	100	100
1990	65,52	49,46	12,94	16,64	5,28	7,61	6,33	14,53	3,43	3,16	6,50	8,53	100	100

Table 2

Stock of education among the urban black population aged 15-64 for 1970, 1980 and 1990

Year	Educational Level N	VI	VII	VIII	IX	X	T
1970	77,07	12,41	3,39	4,04	1,67	1,43	100,00
1980	69,20	13,87	4,82	6,74	2,27	3,10	100,00
1990	59,12	14,41	6,21	9,60	3,32	7,34	100,00

Notes: N is no education or primary education only
VI is Std 6
VII is Std 7
VIII is Std 8
IX is Std 9
X is Std 10 or post school education
T is Total
S, i.e. those still at school are subtracted before making these calculations as they are not part of the potential workforce at the time.

(1) Simkins, C.E.W. The Distribution of the African Population of South Africa By Age, Sex and Region-Type 1960, 1970 and 1980. Saldru Working Paper No 32, 1981, p. 21.

(2) Sadie, J.L. Projections of the South African Population 1970-2000, Industrial Development Corporation of SA Limited, pp. 65-66.

Clearly not every person accounted for in these tables is economically active. Simkins has calculated activity rates for the Black population[1]. These are based on activity rates for metropolitan Blacks taken from the Current Population Survey of March 1980. Economically active persons outside the 15-64 age group are excluded.

Table 3

Activity rates by sex and age group 1980 and 1990 (percent)

Age	Male		Female	
	1980	1990	1980	1990
15-19	37,0	36,5	16,0	16,0
20-24	89,1	85,6	66,7	62,8
25-29	89,1	85,6	66,7	62,8
30-34	95,1	95,1	76,8	76,8
35-39	95,1	95,1	76,8	76,8
40-44	93,1	93,1	71,2	71,2
45-49	93,1	93,1	71,2	71,2
50-54	88,8	88,8	57,6	57,6
55-59	88,8	88,8	57,6	57,6
60-64	72,4	72,4	37,6	37,6

Source: Simkins, C.E.W. The structure of labour supply in the Western Cape: Some expectations of the labour situation in the year 1990 and 2000. p. 15.

Since not all urban residents are economically active (and hence not part of the labour supply), the frequencies in each cell of Tables 2, 4, 6, 9 and 10 of Appendix 7 must be multiplied by the activity rates calculated. This provides an estimate of the actual supply of urban black labour - both female and male

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1. Simkins, C.E.W., op. cit., pp. 14-15.

One problem remains before the educational distribution of the economically active urban population can be calculated. This is that there may well be an interaction between activity rates and educational level. In order to test this possibility Simkins applied the log linear model to contingency tables constructed from the 1970 Population Census.[1]

He finds that since nearly all men between 25 and 64 are economically active, the distribution of education among those who are economically active does not differ much from that in the male population as a whole[2]. Conversely, a clear interaction is apparent for women. Better educated women are generally more likely to be economically active than relatively poorly educated women and the female labour supply is thus better educated than the female population as a whole[3]. In order to obtain a more accurate picture of the educational distribution among economically active urban black women, the interaction between activity rates and educational level must be allowed for.

Simkins has calculated multipliers which when applied to the educational distribution given by the initial procedure, renders a more accurate picture.[4] Application of the multipliers may not preserve the totals exactly and these are reintroduced by prorating.[5]

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(1) ibid, pp. 17-19.
(2) ibid, p. 18
(3) ibid, p. 19
(4) ibid, p. 18
(5) ibid. p. 18

Table 4

Multipliers reflecting the impact of education on labour supply for Blacks, 1970- (to be applied to the 25-64 age cohorts)

Educational Level	Sex	
	Male	Female
None	,9976	,8019
Sub A - Std 2	1,0041	,9463
Std 3 - Std 5	1,0035	,9451
Std 6 - Std 7	1,0004	1,0060
Std 8 - Std 9	1,0016	1,0351
Std 10	,9900	1,1894

Source: Simkins, C.E.W., ibid, p. 18.

These multipliers are only used in calculating the distribution for females, as the interaction between education and economic activity for males was negligible. The distribution of the urban black population by education is presented in Table 5. The procedure can be followed in Tables 11-14 of Appendix 7.

Table 5

Economically active urban black population by education 1980 and 1990 (Percent)

	Educational Level						
Year	N	VI	VII	VIII	IX	X	T
1980	69,59	13,89	4,59	6,37	2,39	3,16	100,00
1990	59,02	14,44	6,04	9,44	3,46	7,60	100,00

6.2 The Demand for Urban Black Labour

The demand for labour in 1980 and 1990 is calculated in three steps. Firstly, the division of labour between the various occupational categories is calculated for 1980 and projected for 1990. Using data from the biennial manpower surveys[1], the division of the black labour force into

(1) Department of Labour, Manpower Surveys, op. cit.

the occupational categories is calculated for 1969-1979. (The 1979 Manpower Survey was the most recent at the time of writing this paper). The division for 1980 and 1990 is then extrapolated by means of simple linear regression (See Table 1 of Appendix 8).

Secondly, the size of the urban labour force can similarly be calculated for 1980 and 1990 and distributed between the various occupational categories according to the proportions indicated in Table 1 of Appendix 8 (See Table 2 of Appendix 8).

Finally, the cross-tabulations of occupation by education from the surveys in Soweto and the Peninsula townships are aggregated[1]. The aggregated table provides an illustration of the educational mix for each occupational category. The number of people calculated to be in each of the categories (in Table 2 of Appendix 8) can then be distributed according to educational level. The results which are indicative of the demand for urban black labour by educational level, are summarised in Table 6 and presented in detail in Tables 3 and 4 of Appendix 8.

Table 6

The projected demand for black labour of varying educational levels 1980, 1990

Year	N	Educational Level VI - VII	VIII-IX	X+
1980	48,06	29,24	15,55	7,15
1990	45,82	29,75	15,74	8,68

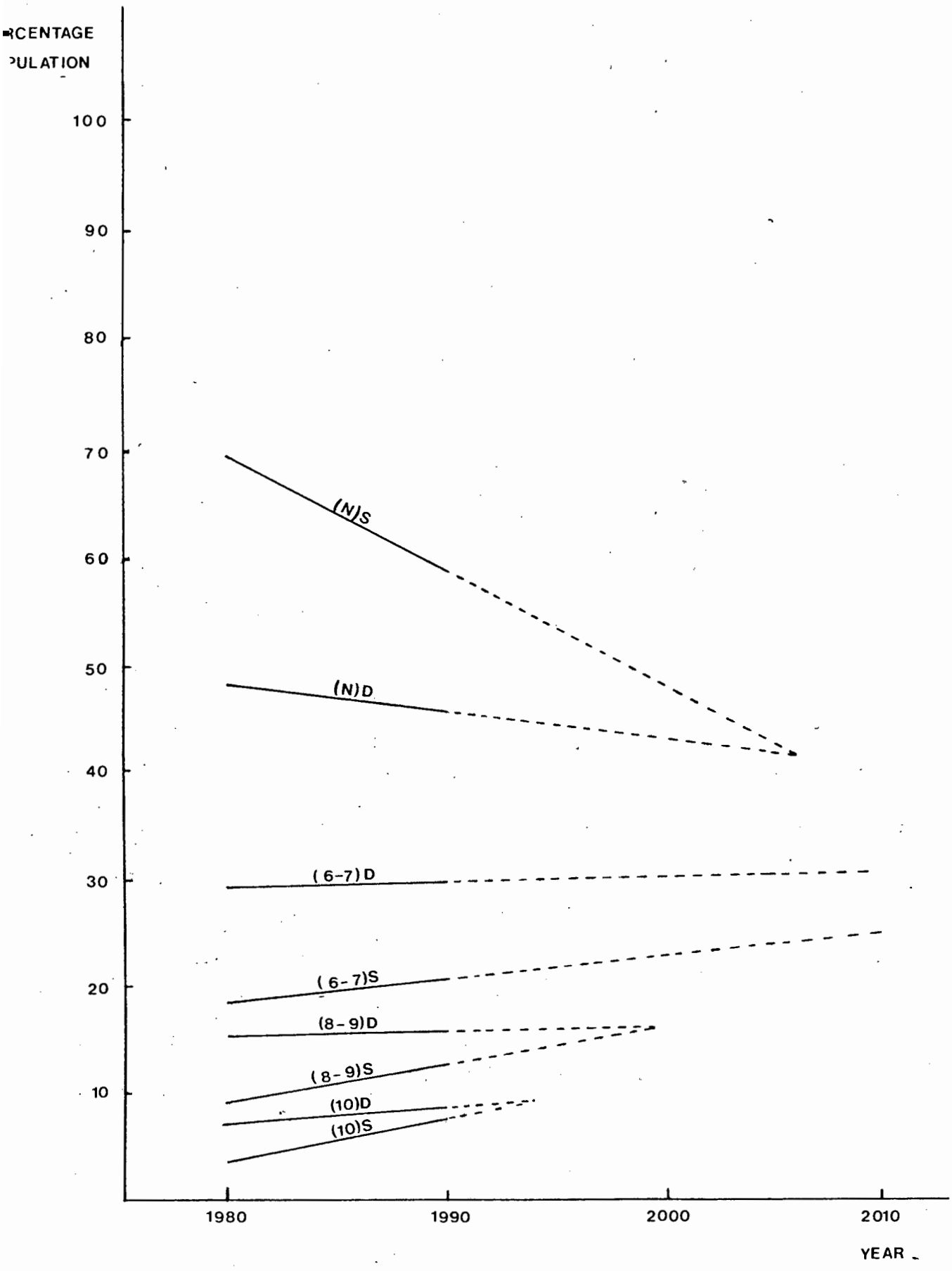
6.3 The Relationship between Supply and Demand

The projected educational mix of the urban black labour supply can be compared with the projected demand for urban black labour by education. This is best done graphically. Figure 6.1 illustrates the projected supply and demand curves which are plotted from Tables 5 and 6.

(1) This should serve to reduce the extent to which the results are biased by regional peculiarities.

Figure 6.1

Supply and Demand for Urban Black Labour by Education



The projections in Figure 6.1 show that supply exceeds demand only for labour with no education or with a primary school level of education only. This conforms to the already mentioned oft held belief, that the South African labour market is characterised by an excess supply of unskilled labour. However, both these curves are declining, supply more rapidly, and hence the two are converging.

The demand for labour with a Std 6-10 level of education exceeds supply. At the senior secondary school level (Std 8-9 and Std 10), the disparities are fairly small and the curves converge and meet around 1995-2000. Thus although the curves suggest that some shortages of better educated labour do occur, under existing conditions it appears that the disparities between supply and demand are narrowing fairly rapidly.

It is possible that the educational mix for occupations derived from the Peninsula townships sample, has introduced some bias into these projections. It was noted in Chapter 3 that certain peculiarities existed in the Peninsula sample - these will be briefly reiterated here. The Coloured labour preference policy restricts black employment in the Western Cape by setting quotas on the number of blacks employers may hire, and by permitting the employment of blacks in certain occupations only where persons classified as 'coloured' are unavailable. This has the effect of creating greater competition among blacks for the available jobs which are generally filled by the best educated applicants. Thus the average level of education of black employees in the Western Cape is relatively high. This process of 'crowding out' would have an impact on the projected demand for black labour - which is likely to be overstated by national standards for well educated labour and under-stated for relatively poorly educated labour.

A further point to make is that the educational mix matrix on which the demand projections were based were calculated from the surveys of household residents. It appears that the median level of education is generally lower in each occupational category when this is calculated for hostel dwellers as compared to household residents in the Peninsula townships (see Appendix 9). This should not be surprising as the occupational categories are fairly broad and the occupations in each may vary to some extent in terms of skill and educational requirements. It is probable that hostel dwellers, most of whom are contract workers and Section 10(1)b's, perform those occupations within each category which require relatively less education and training.

Thus if hostel dwellers had been included in calculating the aggregated educational mix for each occupation, it seems that the demand for labour of higher levels of education would shift down, while the demand for labour with only a primary level of education would shift upwards. Thus the disparities apparent in Figure 6 would become less significant. This has not been done as the sample of hostel dwellers were investigated in a separate survey and were not included in the random selection process of the other two surveys. The proportions would thus be inaccurate reflections of the proportion of hostel dwellers in these regions and would lead to biased results.

Furthermore, in calculating the demand for labour projections, the division of labour for 1980 and 1990 were calculated using data from the biennial manpower surveys. These exclude domestic workers. It is probable that had domestics been included, the proportional size of the unskilled category would be greater which would have the effect of shifting the projected demand for labour with no education - or primary education only, upwards and the projected demand for labour with secondary education downwards. This would again have the effect of bringing the projected supply and demand projections closer together.

It is difficult to accurately evaluate the extent to which these factors serve to increase the disparities between the projections of supply and demand. However they do suggest that a sufficient basic educational endowment may exist in much of the labour force and that in so far as skilled labour shortages do exist, their causes may lie elsewhere. Similarly, they suggest that black occupational mobility may in fact be hampered by demand constraints and that supply is not the only factor imposing limits. This is supported by the research of several academics who have found that a lack of formal education is not a significant barrier to job advancement among blacks.[1] It is supported by findings in Chapter 3 which indicated that black occupational mobility was demand constrained to a significant extent.

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1. See for example: Nattrass, J., "Job Advancement: Difficulties in the South African Context.", paper presented at the H.S.R.C. Conference, September 1979

From these results, it seems that under present conditions (i.e. assuming that the educational prerequisites for employment in particular occupational categories remain constant), black occupational mobility will not be severely constrained by supply limitations. Furthermore, if black mobility continues at its present rate into more skilled occupations, this should succeed in mitigating against the dire shortages of more skilled labour which have commonly been predicted. This does not of course suggest that shortages will not occur in particular occupations and sectors - these should be expected in all but the most stagnant of economies. It does, however suggest that skilled labour shortages generally , are not an endemic feature of the South African labour market.

6.4 Conclusion

It has been shown that economic growth in South Africa since 1960, particularly the expansion of the secondary and tertiary industrial sectors led to marked changes in the patterns of demand for labour. The consequent changes in the occupational structure were characterised by a relative decline in the proportion of the labour force in unskilled manual occupations and non-manual occupations and an increase in the proportion employed in more skilled manual occupations and non-manual occupations.

These general trends in the occupational structure were mirrored by changes in the distribution of the black labour force (the majority of which was and still is employed in unskilled manual occupations). Black mobility during the period under consideration was shown to have become increasingly pronounced into skilled manual and non-manual middle class occupations, while the proportion of blacks in unskilled manual employment declined. Consequently, there has been some 'blurring' of the racial hierarchical division of labour particularly at the skilled manual, lower mental and supervisory levels. Nevertheless, despite these changes it is apparent that the black work force is and in the forseeable future will continue to be concentrated in manual occupations.

It was evident from the micro-studies in Chapter 111 that the changes apparent in the division of labour, (which included a relatively rapid expansion of employment opportunities higher up on the occupational hierarchy), facilitated upward mobility in the sample populations. Upward mobility was found to exceed downward mobility in both the inter and intra-generational mobility tables. Although the relative growth of more skilled occupations necessitated recruitment from the unskilled and semi-skilled categories, the chances of subjects originating in the latter two categories, being mobile into non-manual occupations was far slighter than the chances of respondents with non-manual origins. This barrier between manual and non-manual occupations reflects the division into working class and middle class occupations.

It was found that most of the observed occupational mobility was not random. From this it was deduced that there are 'forces' at work which establish differentials in the occupational opportunities open to respondents.

Education was found to be the most important of these 'forces'. It was however in turn strongly influenced by the socio-economic background of the respondents, more specifically by the level of education and occupational status of the household head. It appeared therefore, that the occupational differentiation emerging in the sample, was based increasingly on educational criteria. 'Credentials' thus appear to be a handy device whereby those in relatively advantaged socio-economic circumstances are able to transmit the benefits to their own children or wards. This transmission of socio-economic position occurred even where differences in the education of respondents was controlled. The occupational inheritance apparent in the mobility tables was therefore primarily but not entirely transmitted through the respondents' education.

The standard of education among hostel dwellers, particularly contract workers, was found to be significantly lower than that of household residents, most of whom were 'borners' - (Hostel dwellers with Section

10 (1) a rights had a similar level of education to household residents). Similarly hostel dwellers were in general more commonly employed in occupations lower down on the occupational hierarchy which can partly be ascribed to their generally relatively poor educational level. Furthermore, upward mobility (both inter and intra-generationally), was relatively limited among hostel dwellers. There was thus a higher degree of maintenace of parental status or status of first occupation among hostel dwellers as compared to household residents.

It is evident that the requirements for more skilled and better educated labour is met by and large, by recruitment from the ranks of those with rights to permanent residence in urban areas. Unskilled andrelatively cheap labour on the other hand is recruited primarily from the ranks of the 'outsiders'. The insider:outsider dichotomy thus reflects a set of legal arrangements which restrict access to rewards and privileges. Furthermore, legal status appears to becoming increasingly important as a criterion for occupational closure in place of collective racial exclusion. The inter-relationship between legal status, education, socio-economic background and occupation tends to lock the contract worker into the lower economic strata. These circumstances are in turn transmitted to his children.

In so far as legal status, education, socio-economic background and occupations influence the class positions of individuals, it can be concluded that increasing class differentiation is apparent in the black community. A process is underway which appears to favour the integration of relatively well educated urban blacks into the higher occupational echelons - a process which testifies to the erosion of the colour bar, to the increasing importance of legal status and to an element of change in the previously close relationship between class and race. The extent of change in the relationship between class and race is difficult to evaluate at this point in time. Although overtly racist barriers to upward social mobility are being formally repealed the reproduction of class positions along racial lines is likely to persevere for some time. This is of course partly due to the differentials in socio-economic background conditions and education between the population groups. These differentials

are unlikely to dissappear for several generations.

The rate of upward mobility from manual into non-manual occupations was surprisingly similar for respondents in the household surveys, and those in several of the overseas studies (U.S.A., Britain, Sweden, etc.) The rate of downward intra-generational mobility was far lower in the township surveys than is reflected in the overseas results. This was deduced to be due to rapid changes in the occupational structure - occurring primarily in response to economic growth and structural changes in the economy. The fairly rapid upward mobility in the township surveys is possibly also a reflection of the fact that such mobility had been 'bottled up' by legislation and custom. Once these restrictive practices began to erode a considerable resevoir of blacks with an adequate basic education was already in existence.

A somewhat startling result was the degree of similarity between the determinants of mobility in Soweto and the United States. The results suggested that where respondents in the two regions had comparable socio-economic backgrounds and similar levels of education, they would be likely to be employed in similar occupations. This was surprising as one would expect the mobility of the Soweto residents to be further constrained by legislation and racial employment practices.

From the projections of the supply and demand for black labour, it appears that shortages of skilled labour in South Africa are not as critical as often believed, nor is the future picture in this respect as gloomy as usually predicted. Black occupational mobility into skilled occupations is occurring and constraints on the supply of blacks with an adequate basic level of education for employment in these skilled occupations are neither enormous nor insurmountable. Contrary to the general belief that the situation is getting worse, these results suggest that it is getting better fairly rapidly.

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APPENDIX 1

THE SAMPLING METHOD - SOWETO

A town plan of Soweto with a scale of 1:5 000 on which each stand in Soweto was demarcated and numbered was obtained.

As a first step in selecting a random sample of households to be surveyed, the various different sizes of stands were noted and each house classified as one of a series of eleven possible size types. These varied in size from category A in which each stand was 10,8 mm^2 as measured on the plan (i.e. 12m by 22,5m in reality), to Category J in which each stand was 39,6 mm^2 in area on the plan (i.e. 22m by 45m in reality).

All the areas of a common density were then grouped together and demarcated on the plan. The eleven size types were then aggregated into three broader groupings determined by the size of the square root of the area of each stand. (The area itself could also be used as the grouping criterion). Thus categories A, C, F, and L where the square roots of the areas were all less than 4,0 were grouped together as were B, D, E, and G where the square roots were greater than 4,0 but less than 5,0 and I, J, and K, where the square roots of the areas exceeded 5,0.

The plan of Soweto was then divided into blocks measuring 48,8cm by 82cm which was slightly smaller than the size of the sheets of tracing paper to be used in selecting a random sample.

Three grids were constructed on these sheets of tracing paper. The first, the finest grid was divided into squares of 3X3mm^2 in area (the approximate size of the average stand for categories A,C,F and L). These squares covered 48 by 81cm^2 on the tracing paper, these dimensions being closest in size to the blocks demarcated on the plan itself but divisible by 3. The grid was then divided into larger squares each containing 100 of the smaller squares. In all there were 432 of these larger squares, and in order to cover one per cent of the area on the sheet one large square out of each 24 was selected in which 24 smaller squares out of each 100 were selected.

In order to take a random sample a table of random units was acquired and from this the 18 large squares and 24 smaller squares were selected.

The grid thus constructed was placed over each block demarcated on the plan itself and pinholes were pierced through each of the blacked out squares. As the grid was moved from one block to another on the plan, so each of the stands in category A,C,F, and L which had been pierced was coloured in.

The same procedure was followed in constructing a medium density grid for selecting a random sample of B,D,E, and F type households. In this grid each smaller square measured 4 by 4mm^2 and the grid was divided into 252 bigger squares of which 14 were randomly selected (1 in 18) and thereafter 18 in 100 of the smaller squares. Similarly the coarse grid was divided into small squares measuring 5 by 5mm^2 and 160 larger ones, one in 10 of which were randomly selected. In each of these, 10 in 100 smaller squares were randomly selected and blacked out.

Approximately 800 stands were selected in this manner which fell short of the desired sample size. Thus a further 0,5 per cent sample was selected by choosing another 9, 7, and 8 large squares on the three grids respectively in which the smaller squares were blacked out in the manner already outlined. This yielded an additional 366 stands on which the households would be surveyed.

Reliability

The accuracy of the results and the reliability of the conclusions drawn from them depend primarily on the accuracy of the information supplied by the individuals interviewed and on the meticulousness of the interviewers. In these factors one may have confidence but it would be untrue to assert that a full and accurate record of all changes in occupations and the variables under consideration had been obtained from every individual interviewed. However, most inconsistencies in the information supplied were noted and corrected and internal consistency suggests a substantial degree of accuracy.

APPENDIX 2

SURVEY QUESTIONNAIRE

SECTION A: HOUSEHOLD DETAILS

I. Household number: | | | | |

II. Household address:

III. Economically active persons over the age of 15 presently residing in the household:

No.	Name	Age	Sex
1.			
2.			
3.			
4.			
5.			
6.			

IV. Name of Interviewer:

V; Date of Interview:

SECTION B: INDIVIDUAL DETAILS

HOUSEHOLD NUMBER AND RESPONDENT NUMBER: [ ][ ][ ][ ] — [ ]

1. Age (in years): [ ]

2. Sex: [M] [F]

3. LEGAL STATUS OF RESPONDENT:

Are you:

- [ ] (a) A contract worker with a contract?
- [ ] (b) A permanent resident by birth?
- [ ] (c) A permanent resident through continuous employment for 10 years OR 15 years legal residence?
- [ ] (d) A dependant of a resident who qualifies under condition 2 or 3 above to be in the area?
- [ ] (e) In the area illegally?
- [ ] (f) Unwilling to answer the question?

4. EMPLOYMENT STATUS OF RESPONDENT:

Employed	
Unemployed, i.e. wanting to work but unable to find a job	

5. EDUCATION OF RESPONDENT:

	Last school exam passed	Year in which passed
None		
Sub A - Std 2		
Std 3 - 5		
Std 6 - 7		
Std 8 - 9		
Std 10 with university exemption		
Std 10 without university exemption		

6. What further education or training have you received since leaving school?

	Specify course	Course Completed Yes/No	Length of course
None			
Commercial (e.g. typing, shorthand, bookkeeping, etc.)			
Technical (e.g. carpenter, bricklayer, electrician, draughtsman, etc.)			
Medical - non-university			
Teacher Training - non-university			
University - degrees & diplomas			
In-service			
Other			

7. If the respondent left school before matriculating, ask:

   WHY did you leave school before getting your matric?

Financial reasons	
Wanted to start work/did not need or want matric	
Could not cope with schoolwork/too difficult	
Other (specify)	

8. Are you going to study further?

Yes	No

9. If the respondent answers yes to Question 8, ask:

   What course(s) are you going to do and where will you do it/them?

10. OCCUPATIONAL STATUS OF RESPONDENT:

What jobs have you had over the last 10 years?

What was your first job?

(Begin with present/most recent job and work back. If the respondent's first job is not included, it should be inserted in the final block).

	Occupation	Employer/ Employee or self-employed	Industry	Town	Date of Engagement	Date of leaving
1. (Present/most recent job)						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
First job						

Occupational description where unable to classify:

No.	

11. If the respondent is a working proprietor, ask:

How many workers do you employ? [ ]

12. (a) Given your qualifications, what job would you most like to do/to have done?

[ ]

(b) Why is this your most preferred job?

[ ]

(c) If the respondent is not/was not last employed in his most preferred job, ask:

Why have you not/did you not change to this job?

[ ]

13. Do you have any health problem which might significantly affect your job?

Yes	No

14. Employment Status of Head of Household in which Respondent was brought up:

(i) Present/last job of the head of household in which the respondent was brought up:

(ii) Sex of this head of household:

M	F

(iii) Relationship of respondent to head of household:

(iv) Present/last job of spouse (if any) of head of household:

15. Education of Head of Household in which Respondent was brought up:

(i)

Last school exam passed	None	
	Sub A-Std 2	
	Std 3 - 5	
	Std 6 - 7	
	Std 8 - 9	
	Std 10	

(ii) Any further education?

Yes	No

If yes, explain as fully as possible:

16. Education of Spouse (if any) of Head of Household in which Respondent was brought up:

(i)

Last school exam passed	None	
	Sub A - Std 2	
	Std 3 - 5	
	Std 6 - 7	
	Std 8 - 9	
	Std 10	

(ii) Any further education?

Yes	No

If yes, explain as fully as possible:

APPENDIX 3

TABLE 1

MOBILITY FROM THE H.O.H.'s OCCUPATION TO OCCUPATION IN 1981 FOR ALL FEMALE RESPONDENTS

RATIO OF OBSERVED FREQUENCIES TO FREQUENCIES EXPECTED ON THE ASSUMPTION OF INDEPENDANCE

H.O.H. Occupation	Female Respondents Occupation 1981														
	High Prof.	Senior Exec.	Salaried Prof.	Lower Exec.	Semi-Prof.	Private Owners	Senior Clerical	Clerical	Blue-collar Technical	Super-visory	Artisan	Skilled Manual	Low Non-Manual	Semi-skilled	Unskilled
High Professional															3,04*
Senior Executives (large organistn.)															
Salaried Professionals															
Lower Executives															
Semi-Professional					3,29		3,41*	2,34	3,02				4,56*	0,40*	0,38
Private Owners									6,04*				0,76	2,41*	
Senior Clerical															
Clerical					4,51*			5,34*	1,73*				4,56*		
Blue Collar Technical					1,58*				3,62				1,30*	0,48*	0,91
Supervisory									3,02*				0,91*	2,41*	
Artisan													1,14*		
Skilled Manual								1,17*	1,51*					0,91	1,14
Low-Non-Manual	7,29*				0,55*	3,57*	1,43*	2,29	1,27			2,06*	1,14	1,19	0,37
Semi-Skilled					0,51		0,88*	0,60	0,25	2,95*			1,28	1,61	0,75
Unskilled				2,29*	1,12	1,12*	0,89*	0,61	0,79	0,75*		1,60	1,37	0,74	1,38
Farm													0,77	1,20	2,28

* Denotes cells in which the frequencies were too small for reliability

APPENDIX 3

TABLE 2

MOBILITY FROM THE H.O.H.'s OCCUPATION TO OCCUPATION IN 1981 FOR ALL MALE RESPONDENTS:

RATIOS OF OBSERVED FREQUENCIES TO FREQUENCIES EXPECTED ON THE ASSUMPTION OF INDEPENDENCE

H.O.H. Occupation	Male Respondents Occupation 1981														
	High Prof.	Senior Exec.	Salaried Prof.	Lower Exec.	Semi-Prof.	Private Owners	Senior Clerical	Clerical	Blue-collar Technical	Super-visory	Artisan	Skilled Manual	Low Non-Manual	Semi-skilled	Unskilled
High Professional															
Senior Executives (large organistn.)															
Salaried Professionals															
Lower Executives															
Semi-Professional				4,49*	7,19		4,15	0,90*	1,35*	1,92*	3,36*	0,42*	0,90	0,21*	
Private Owners														2,01	2,28*
Senior Clerical					5,62*			2,81*						0,67*	2,28*
Clerical									8,42*			5,26*		0,67*	
Blue Collar Technical														1,73*	3,04*
Supervisory								1,25*				5,85	0,62*	0,59*	
Artisan							0,92*	0,92	2,06	0,98*	1,71*	1,93	1,61	0,82	0,19*
Skilled Manual					0,52*		1,79	1,03	0,39*	1,66	0,97*	0,85	0,97	1,14	0,73
Low-Non-Manual				0,84*	0,67		0,39*	1,09	1,01	0,72*	0,63*	0,47	0,96	1,08	1,63
Semi-Skilled				6,25*				0,62				1,17*	0,94	1,34	1,01*
Unskilled															
Farm															

* Denotes cells in which the frequencies were too small for reliablility

APPENDIX 4

TABLE 1a

Mobility from H.O.H.'s Occupation to 1981 Occupation for all Respondents: Outflow Percentages

H.O.H. Occupation	Respondents Occupation 1981		
	Non-Manual	Manual	Total
Non-Manual	60,4	39,6	100,00
Manual	36,9	63,1	100,00

TABLE 1b

Mobility from H.O.H.'s Occupation to 1981 Occupation for all Respondents: Ratios of Observed to Expected Frequencies on the Assumption of Independence

H.O.H. Occupation	Respondents Occupation 1981	
	Non-Manual	Manual
Non-Manual	1,4	0,7
Manual	0,9	1,1

TABLE 2a

Mobility from first Job to Occupation in 1981: Outflow Percentages

First Occupation	Occupation in 1981		
	Non-Manual	Manual	Total
Non-Manual	88,9	11,1	100,00
Manual	12,5	87,5	100,00

TABLE 2b

Mobility from First Occupation to 1981 Occupation: Ratios of Observed to Expected Frequencies on the Assummption of Independence

First Occupation	Occupation in 1981	
	Non-Manual	Manual
Non-Manual	2,3	0,2
Manual	0,3	1,4

APPENDIX 5

TABLE 1

Median Level of Education for the Sample Population in Soweto, Nyanga, Langa, and Guguletu

Level of Education	Combined Frequencies
None	70
Sub A - Std. 2	151
Std. 3 - 5	280
Std. 6 - 7	395
Std. 8 - 9	223
Std. 10 U	123
Std. 10	22
	1264

The median level of education lies in the Std. 6-7 educational category.

TABLE 2

Contingency Table

	Soweto	Peninsula Townships	Total
$\leq$ M	378	276	654
> M	362	248	610
	740	524	1264

The Chi-Square test

Suppose the contingency table is written as:

			Totals
	a	b	a + b
	c	d	c + d
Totals	a + c	b + d	n=a+b+c+d

Where a, b, c, d are the observed frequencies for the four cells. The following expression is equivalent to the usual formula for X^2,

$$X^2 = \frac{n(ad - bc)^2}{(a+b)(c+d)(a+c)(b+d)}$$

Thus for the results in Table 2 of this Appendix,

$$X^2 = \frac{(378 \times 248 - 362 \times 276)^2 \, 1264}{(654 \times 740 \times 740 \times 654)}$$

$$= \frac{(93744 - 99912)^2 \, 1264}{234217281600}$$

$$= \frac{48087899140}{234217281600} = 2,05$$

APPENDIX 6

TABLE 1

MOBILITY FROM H.O.H.'s OCCUPATION TO OCCUPATION IN 1981 FOR ALL MALE RESPONDENTS :

RATIOS OF OBSERVED TO EXPECTED FREQUENCIES ON THE ASSUMPTION OF INDEPENDENCE

H.O.H. Occupation	Respondents Occupation 1981														
	High Prof.	Senior Exec.	Salaried Prof.	Lower Exec.	Semi-Prof.	Private Owners	Senior Clerical	Clerical	Blue-collar Technical	Super-visory	Artisan	Skilled Manual	Low Non-Manual	Semi-skilled	Unskilled
High Professional															
Senior Executives (large organistn.)															
Salaried Professionals															
Lower Executives															
Semi-Professional					2,45			1,04						2,46	0,55
Private Owners															
Senior Clerical															
Clerical								3,73						1,18	0,44
Blue Collar Technical															
Supervisory															
Artisan															
Skilled Manual															
Low-Non-Manual					1,64			0,69					1,97	1.97	0,73
Semi-Skilled					1,28			1,62						1,54	0,86
Unskilled					0,78			0,90		1,55			1,01	0,78	1,12
Farm					1,84								2,21		1,37

APPENDIX 6

TABLE 2

MOBILITY FROM H.O.H.'s OCCUPATION TO OCCUPATION IN 1981 FOR FEMALE RESPONDENTS:

RATIOS OF OBSERVED TO EXPECTED FREQUENCIES ON THE ASSUMPTION OF INDEPENDENCE

H.O.H. Occupation	Respondents Occupation 1981														
	High Prof.	Senior Exec.	Salaried Prof.	Lower Exec.	Semi-Prof.	Private Owners	Senior Clerical	Clerical	Blue-collar Technical	Super-visory	Artisan	Skilled Manual	Low Non-Manual	Semi-skilled	Unskilled
High Professional															
Senior Executives (large organistn.)															
Salaried Professionals															
Lower Executives															
Semi-Professional					2,47			3,50	1,17				1,45	1,0	0,57
Private Owners															
Senior Clerical															
Clerical					1,40			3,97					1,64		0,80
Blue Collar Technical															
Supervisory															
Artisan															
Skilled Manual															
Low-Non-Manual					2,33			1,10	1,10				0,46	0,95	0,89
Semi-Skilled					2,15			1,53					1,26	1,31	0,87
Unskilled					0,62			0,5	1,10				0,98	1,18	1,05
Farm													0,75		1,46

APPENDIX 7

TABLE 1

Education by age-cohort - Urban Black Males

(1970)

I970	N	VI	VII	VIII	IX	X +	S	T
15-19	161421	19938	6244	7661	2860	3883	60340	262347
20-24	286566	48663	11931	13707	6403	4260		371530
25-29	473334	68734	17492	20812	10339	7134		597845
30-34								
35-39	341309	39041	10081	11456	5719	5929		413535
40-44								
45-49	218544	20672	4245	4407	2146	2809		252823
50-54								
55-59	94549	7218	1257	1267	661	1010		105962
60-64								
Total	1575723	204266	51250	59310	28128	25025	60340	2004042
%	78,6	10,2	2,6	3,0	1,4	1,2	3,0	100,0

TABLE 2

Education by age-cohort - Urban Black Males (1980)

Educational Level

Age	N	VI	VII	VIII	IX	X +	S	T
15-19	120489	26066	11683	15267	4320	6259	61361	245445
20-24	298450	60590	23042	29377	16203	31351		459012
25-29	299033	55322	17291	21245	11022	16786		420699
30-34	242710	41223	10101	11612	5412	3619		314677
35-39	188420	27369	6973	8282	4117	2832		237993
40-44	165072	23978	6109	7256	3607	2481		208503
45-49	139866	15998	4135	4694	2339	2441		169473
50-54	107194	12261	3169	3598	1792	1871		129885
55-59	80612	7628	1567	1623	793	1035		93258
60-64	49812	4714	968	1003	490	640		57627
Total	1691658	275149	85038	103956	50095	69314	61361	2336571
%	72,40	11,78	3,64	4,45	2,14	2,97	2,63	100,0

Note: In tables 2, 4, 6, 8, 9 and 10, the total row and total column may differ slightly due to rounding.

Simkins calculates that in 1980 18,3% of the black male population and 14,2% of black females, lived in metropolitan areas.[1] If it is assumed that the sex/region distribution remains the same for 1990 then in conjunction with Sadie's population estimates it can be calculated that in 1990 the black metropolitan male population will be 2 507 301 and the black metropolitan female population 2 015 179. If one then assumes that the age distribution calculated by Simkins for 1980 remains constant for 1990, the age distribution for men and women in metropolitan areas can be computed for 1990.

TABLE 3

Age and Sex Distribution of the Domestic African Population in Metropolitan Areas - 1990

Age	Male	Female
15 - 19	213365	184403
20 - 24	363760	225950
25 - 29	304120	192903
30 - 34	252591	163975
35 - 39	209599	150797
40 - 44	183015	138515
45 - 49	157069	105347
50 - 54	123530	90510
55 - 59	85761	59007
60 - 64	55317	39402
	1948127	1311407

Once the distribution is known, the sex-age cohorts can be distributed between the six educational levels distinguished using the method already outlined in Chapter 6.

---

1. Simkins, C.E.W., op.cit. p.22.

TABLE 4

Education by Age-cohort - Metropolitan Black Males

1990

Age	N	VI	VII	VIII	IX	X+	S	T
15-19	83212	23662	16024	12396	5291	8641	64137	213363
20-24	192429	48344	24881	33175	19461	45470		363760
25-29	179309	40265	18034	23600	13503	29469		304180
30-34	164235	33342	12680	16166	8916	17251		252590
35-39	148983	27562	8615	10585	5491	8363		209599
40-44	141159	23975	5875	6753	3148	2106		183016
45-49	124351	18063	4602	5466	2717	1869		157068
50-54	97798	14206	3619	4299	2137	1470		123529
55-59	70778	8096	2093	2376	1183	1235		85761
60-64	45653	5222	1350	1532	763	797		55317
Total	1247907	242737	97773	116348	62610	116671	64137	1948183
%	64,1	12,5	5,0	6,0	3,2	6,0	3,3	100,0

Simkins calculates that in 1980 10,2% of the black male population and 8,0% of the female population lived in other urban, i.e. non-metropolitan, urban areas. If it is again assumed that the sex/region distribution remains the same for 1990 then on the basis of Sadie's population estimates it can be calculated that in 1990 the black 'other urban' male population will be 1 397 512 and the black 'other urban' female population 1 135 312. Assuming as before that the 1980 age distribution (in proportionate terms) remains constant for 1990, the actual age distribution in 'other urban' areas can be calculated for 1990, and distributed between the sex education levels.

TABLE 5

Age and Sex Distribution of the Domestic Black Population in 'other urban' areas 1990

Age	Male	Female
15 - 19	106486	138329
20 - 24	234428	121463
25 - 29	244161	98288
30 - 34	157496	91692
35 - 39	100541	68914
40 - 44	88694	60034
45 - 49	63770	47551
50 - 54	45721	36361
55 - 59	35764	35112
60 - 64	19774	18630
Total	1096835	716374

TABLE 6

Education by Age Cohort - 'other urban' Black Males - 1990

Educational Level

Age	N	VI	VII	VIII	IX	X+	S	T
15-19	41530	11809	7997	6187	2641	4313	32010	106487
20-24	124012	31155	16035	21380	12542	29304		234428
25-29	143957	32327	14479	18947	10841	23610		244161
30-34	102404	20789	7906	10080	5560	10757		157496
35-39	71465	13221	4132	5077	2634	4012		100541
40-44	68410	11619	2847	3273	1526	1020		88694
45-49	50487	7334	1868	2219	1103	759		63770
50-54	36197	5258	1340	1591	791	544		45721
55-59	29516	3376	873	991	494	515		35764
60-64	16319	1867	482	548	273	285		19774
Total	684297	138755	57959	70293	38405	75119	32010	1096838
%	62,39	12,65	5,28	6,41	3,5	6,85	2,92	100,0

TABLE 7

Educational Distribution - All Urban Males 1990

Educational Level

	N	VI	VII	VIII	IX	X+	S	T
Total	1932204	381492	155732	186641	101015	191790	96147	3045021
%	63,45	12,53	5,11	6,13	3,32	6,30	3,16	100,0

TABLE 8

Education by Age Cohort - Urban Black Females

(1970)

Age	N	VI	VII	VIII	IX	X+	S	T
15-19	99071	30578	15479	3109	3109	3355	48697	223687
20-24	134971	46492	12576	6948	6948	3820		219290
25-29	245533	61360	17056	9283	9283	7001		359710
30-34								
35-39	198365	32791	8239	4188	4188	4182		256943
40-44								
45-49	133061	15199	2694	1147	1147	1654		156218
50-54								
55-59	71489	5048	812	319	319	525		78820
60-64								
Total	282490	191468	56956	69526	24994	20537	48697	1294668
%	68,2	14,8	4,4	5,4	1,9	1,6	3,8	100,0

TABLE 9

Education by age cohort - Urban Black Females - 1980

Educational Level

Age	N	VI	VII	VIII	IX	X+	S	T
15-19	80622	31687	15867	24931	3307	10848	70630	237892
20-24	121054	43649	24221	46494	7330	13559		256308
25-29	105753	37020	20390	37729	5844	8122		214858
30-34	116104	39984	10807	12448	5979	3282		188603
35-39	110689	27664	7687	8773	4184	3162		162158
40-44	100040	25003	6947	7929	3781	2858		146558
45-49	87120	14400	3668	3984	1840	1840		112850
50-54	72310	11952	3044	3306	1527	1527		93666
55-59	59132	6755	1194	1097	507	736		69420
60-64	36480	4167	737	677	313	454		42827
Total	889304	242281	94561	147368	34612	46388	70630	1525144
%	58,31	15,89	6,20	9,66	2,27	3,04	4,63	100,00

Using the same method as already outlined for males the educational distribution of urban black females can be projected for 1990.

TABLE 10

Education by age cohort - Urban Black Female - 1990

Educational Level

Age	N	VI	VII	VIII	IX	X+	S	T
15-19	77908	30886	16169	34145	6100	43310	114215	322732
20-24	115758	52876	29808	72783	15842	60346		347413
25-29	112778	50609	27954	58296	10541	31012		291191
30-34	120752	43540	24161	46378	7312	13525		255667
35-39	108142	37856	20851	38581	5976	8305		219711
40-44	122227	42092	11377	13104	6294	3455		198549
45-49	184368	26084	7247	8272	3945	2983		152898
50-54	86602	21644	6014	6864	3273	2474		126871
55-59	72661	12010	3059	3322	1534	1534		94120
60-64	44801	7405	1886	2049	946	946		58032
Total	965997	325002	148526	283794	61763	167889	114215	12067184
%	46,73	15,72	7,19	13,73	2,99	8,12	5,53	100,00

TABLE 11

Education by Age Cohort - Economically Active Urban Black Males - 1980

Educational Level

Age	N	VI	VII	VIII	IX	X+	
15-19	59401	12851	5760	7527	2130	3080	
20-24	265919	53986	20530	26175	14437	27934	
25-29	266438	49292	15406	18929	9821	14956	
30-34	230817	39203	9606	11043	5147	3442	
35-39	179187	26028	6631	7876	3915	2693	
40-44	153682	22324	5688	6755	3358	2310	
45-49	130234	14894	3850	4370	2178	2273	
50-54	95188	10888	2814	3195	1591	1662	
55-59	71584	6774	1392	1441	703	919	
60-64	36064	3413	701	726	355	463	
Total	1488514	239652	72378	88037	43635	59738	1991954
%	74,73	12,03	3,63	4,42	2,19	3,0	100,00

TABLE 12

Education by Age Cohort - Economically Active Urban Black Males - 1990

Educational Level

Age	N	VI	VII	VIII	IX	X+	
15-19	65115	18516	12539	9700	4141	6762	
20-24	270874	68051	35024	46699	27395	64007	
25-29	276716	62139	27831	36420	20839	45436	
30-34	253574	51479	19577	24960	13767	26636	
35-39	209646	33785	12122	14895	7727	11769	
40-44	195109	33138	8120	9334	4352	2910	
45-49	162774	23645	6024	7155	3556	2447	
50-54	118988	17284	4404	5230	2600	1788	
55-59	89061	10187	2634	2990	1489	1554	
60-64	44868	5132	1326	1506	750	783	
Total	1686725	328356	129601	158889	86616	164092	2554279
%	66,04	12,86	5,07	6,22	3,39	6,42	100,00

TABLE 13

Education by Age Cohort - Economically Active Urban Black Females - 1980

Educational Level

Age	N	VI	VII	VIII	IX	X +	
15-19	18350	7212	3611	5674	753	2469	
20-24	80743	29114	16155	31012	4889	9044	
25-29	63045	26043	14327	28217	4497	7181	
30-34	82347	33465	9033	11075	5474	3453	
35-39	79457	23434	6503	7900	3877	3366	
40-44	66576	19635	5449	6619	3248	2821	
45-49	59053	11518	2930	3388	1610	1850	
50-54	39653	7735	1967	2276	1080	1242	
55-59	33008	4450	786	769	365	609	
60-64	13292	1792	317	309	147	245	
Total	535524	164398	61078	97328	25940	32280	916458
%	58,43	17,94	6,67	10,61	2,83	3,52	100,00

TABLE 14

Education by Age Cohort - Economically Active Urban Black Females - 1990

Educational Level

Age	N	VI	VII	VIII	IX	X+	
15-19	25066	11727	6132	13782	2533	20669	
20-24	60923	32839	18490	48055	10762	47107	
25-29	60983	32294	17815	39546	7357	24873	
30-34	82243	34995	19394	39627	6429	13665	
35-39	74231	30664	16868	33224	5295	8455	
40-44	80368	32661	8817	10809	5343	3370	
45-49	69456	20485	5685	6906	3388	2943	
50-54	46625	13752	3816	4636	2274	1976	
55-59	39845	7772	1977	2285	1086	1248	
60-64	16037	3128	795	920	437	502	
Total	555775	220317	99789	199790	44904	124808	1245380
%	44,63	17,69	8,01	16,04	3,61	10,02	100,00

APPENDIX 8

TABLE 1

Division of the Black Labour Force into Occupational Groups

Occupation	Year							
	1969 %	1971 %	1973 %	1975 %	1977 %	1979 %	1980 %	1990 %
High Professional	0,05	0,16	0,16	0,12	0,08	0,05	0,08	0,04
Senior Executive	0,004	0,01	0,01	0,02	0,01	0,05	0,04	0,07
Salaried Professional	0,04	0,03	0,05	0,07	0,04	0,05	0,06	0,07
Low Executive	0,002	0,003	0,004	0,007	0,009	0,03	0,02	0,04
Semi-Professional	1,8	1,89	2,38	2,92	2,41	2,47	2,78	3,56
Private Owners	0,39	0,41	0,41	0,49	0,44	0,24	0,35	0,26
Senior Clerical	0,08	0,06	0,10	0,12	0,09	0,06	0,09	0,09
Clerical	0,94	0,96	1,14	1,54	2,17	2,43	2,51	4,15
Blue-Collar Technical	1,15	1,39	1,34	1,54	1,72	1,40	1,27	1,98
Supervisory	0,48	0,47	0,45	0,87	1,15	1,16	1,63	2,10
Artisans & Skilled Manual	1,29	2,60	2,43	3,12	3,26	5,25	4,92	8,13
Low Non Manual	5,29	5,82	6,17	6,31	6,91	6,59	7,03	8,45
Semi-skilled	16,79	17,43	17,59	18,65	19,67	20,05	20,43	23,87
Unskilled	71,7	68,76	67,77	64,26	62,04	60,17	58,81	47,20
TOTAL	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00

Note: Totals may not add exactly to 100, due to rounding.

TABLE 2

Projected Size and Division of the Urban Black Labour Force - 1980, 1990

Occupation	Year 1980	1990
High Professional	2539	1598
Senior Executive	1270	2796
Salaried Professional	1904	2796
Low Executive	635	1598
Semi-Professional	88238	142200
Private Owners	11109	10385
Senior Clerical	2857	3595
Clerical	79668	165767
Blue Collar Technical	40310	79089
Supervisory	51737	83882
Artisans & Skilled Manual	156161	324744
Low Non Manual	223133	337526
Semi-Skilled	648452	953460
Unskilled	1866639	1885351
TOTAL	3174017	3994388

Table 3

Demand for Urban Black Labour by Educational Level - 1980

Occupation	N	Educational Level VI - VII	VIII - IX	X +	T
High Professional	172	446	1029	892	2539
Senior Executives		293	782	195	1270
Salaried Professional	129	334	772	669	1904
Low Executive		147	391	98	635
Semi-Professional	5962	15501	35772	31003	88238
Private Owners		2564	6836	1709	11109
Senior Clerical	143	1000	857	857	2857
Clerical	3758	22548	27057	26305	79668
Blue Collar Technical	2016	18811	10078	9406	40310
Supervisory	15217	9130	18260	9130	51737
Artisans & Skilled Manual	50089	61875	14732	29464	156161
Low Non Manual	72926	104492	21770	23946	223133
Semi-Skilled	391975	162113	67749	26616	648452
Unskilled	983319	529159	287496	66666	1866639
Demand for labour according to Educational Level	1525706	928413	493581	226956	3174017
	48,06%	29,24%	15,55%	7,15%	100,00%
Supply of labour according to Educational level	69,59%	18,48%	9,55%	3,16%	100,00%

TABLE 4

Demand for Urban Black Labour by Educational Level - 1990

Occupation	Educational Level				
	N	VI - VII	VIII - IX	X+	T
High Professional	108	281	648	561	1598
Senior Executive	-	645	1721	430	2796
Salaried Professional	189	491	1134	982	2796
Low Executives	-	369	983	246	1598
Semi-Professional	9608	24981	57649	49962	142200
Private Owners	-	2397	6391	1598	10385
Senior Clerical	180	1258	1079	1079	3595
Clerical	7819	46915	56298	54734	165767
Blue Collar Technical	3954	36908	19772	18454	79089
Supervisory	24671	14803	29605	14803	83882
Artisans & Skilled Manual	104163	128672	30636	61272	324744
Low Non-Manual	110313	158061	32929	36222	337526
Semi-Skilled	576345	238365	99615	39134	953460
Unskilled	993176	534463	290378	67334	1885351
Demand for Labour according to Educational Level	1830526	1188609	628838	346811	3994388
	45,82%	29,75%	15,74%	8,68%	100,00%
Supply of Labour according to Educational Level	59,02%	20,48%	12,9%	7,60%	100,00%

APPENDIX 9

TABLE 1

Median Level of Education for Each Occupational Category

Occupation	Median Level of Education - (Number of Years)		
	Soweto (Households)	Peninsula Townships (Households)	Peninsula Townships (Hostels)
Professions (1,3,5)	10	10	8
Bourgeois (2,4,6)	9	10	8
Senior Clerical	10	-	-
Clerical/Sales/Representative	8	10	10-11
Blue Collar Technical	9	10	-
Supervisory	6	10	-
Artisans and Apprentices	8	8	7-8
Other Skilled Manual	8	9	10
Routine Non-Manual	8	9-10	8
Semi-Skilled	5-6	9-10	8
Unskilled	4	8	5